Enclave Urbanism and Infrastructure Outcomes: The Eko Atlantic City and Urban Sustainability Issues in Lagos, Nigeria.

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by

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Darmstadt, März 2023.

Jammie Adebisi Titilayo (M.Sc.)

Dedication

A ti dupe

Solomon Okunola Talabi

(April 10, 1933 – November 20, 2021).

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Abstract

Over the last few decades, cities in Sub-Saharan Africa have experienced a rise in the construction of residential enclaves in response to urban issues such as infrastructure deficit, insecurity, population surge or a combination of all. These enclaves are in most cases characterized by a self-sustaining, independently planned infrastructure and settlement patterns. They are (in some cases) planned to match urban conditions in cities of the global North; thus, representing an urban ideal that is very distant from the conditions in existing towns and cities in the global South. Lagos is Sub-Sahara Africa's fastest-growing city and has, alongside its surging population, witnessed the emergence of premium residential enclaves such as Victoria Garden City and Banana Island.

This research aims to contribute to the debates on enclave urbanism in Sub-Saharan Africa by examining physical planning implications and the urban sustainability issues of seemingly disjointed infrastructure provision and management across residential enclaves. The theoretical framework is premised on a context-specific approach which adapts knowledge established from the lens of geographical characteristics and urban peculiarities. The study examines enclave urbanism and infrastructure outcomes in Lagos, Nigeria through the characterisation of existing case study enclaves and in-depth analyses of the Eko Atlantic City (EAC) to establish the urban sustainability of Lagos. The focus is on the assessment of infrastructure provision, management outcomes, socio-economic cost and the implications of urban enclaves on physical planning and the attainment of sustainable urban development in urban Lagos.

The study adopts a qualitative methodology and primary data collection through semi-structured interviews with urban planners, representatives of the physical planning ministry, residents and developers/managers in four case study premium enclaves and the EAC. Secondary data from (online) archives and websites of agencies and institutions are also utilised during analyses. The data analysis is done using MAXQDA which, in turn, produces dominant themes from thematic analysis under four categories according to the research objectives.

Findings from empirical analyses establish that existing enclaves in Lagos adopt different management structures that are, by and large, sustained by the self-provisioning of infrastructure services through residents' funds. Despite efforts toward self-sufficiency, Lagos' enclaves still rely on the central infrastructure network of the larger metropolis, resulting in a complex infrastructure arrangement. Infrastructure service accessibility is subtly determined by financial ability and or willingness to afford premium service. The EAC represents an advanced

shift in urban enclaving in Lagos through its urban development aspiration of a world-class financial smart city with an independent infrastructure designed and built under a neoliberal arrangement. The emerging city further consolidates urban enclaving in Lagos, raising issues of worsening sociophysical disparities. Also, the willingness of urban elites to provide their infrastructure may have resulted in the government's reluctance and slow pace of infrastructure provision in Lagos, thus inadvertently ignoring a large share of the population residing outside enclaves.

Zusammenfassung

In den letzten Jahrzehnten haben Städte in Subsahara-Afrika einen Anstieg beim Bau von Wohnenklaven erlebt, als Reaktion auf städtische Probleme wie unzureichende Infrastruktur, Unsicherheit, Bevölkerungsanstieg oder eine Kombination aus allem. Diese Enklaven zeichnen sich in den meisten Fällen durch eine sich selbst erhaltende, unabhängig geplante Infrastruktur und Siedlungsmuster aus. Sie sind (in einigen Fällen) so geplant, dass sie den städtischen Bedingungen in Städten des globalen Nordens entsprechen; und repräsentieren damit ein urbanes Ideal, das weit entfernt ist von den Bedingungen in bestehenden Städten des globalen Südens. Lagos ist die an der schnellsten wachsenden Stadt in Subsahara-Afrika und hat neben seiner wachsenden Bevölkerung die Entstehung erstklassiger Wohnenklaven wie Victoria Garden City und Banana Island miterlebt.

Diese Forschung zielt darauf ab, einen Beitrag zu den Debatten über Enklaven-Urbanismus in Subsahara-Afrika zu leisten, indem sie die Implikationen der Raumplanung und die Fragen der urbanen Nachhaltigkeit einer scheinbar unzusammenhängenden Infrastrukturbereitstellung und -verwaltung in Wohnenklaven untersucht. Der theoretische Rahmen basiert auf einem kontextspezifischen Ansatz, der das Wissen, das aus der Linse geografischer Merkmale und städtischer Besonderheiten gewonnen wurde, anpasst. Die Studie untersucht den Enklaven-Urbanismus und die Ergebnisse der Infrastruktur in Lagos, Nigeria, durch die Charakterisierung bestehender Fallstudien-Enklaven und eingehende Analysen der Eko Atlantic City (EAC), um die städtische Nachhaltigkeit von Lagos zu ermitteln. Der Schwerpunkt liegt auf der Bewertung der Infrastrukturbereitstellung, der Managementergebnisse, der sozioökonomischen Kosten und der Auswirkungen städtischer Enklaven auf die räumliche Planung und das Erreichen einer nachhaltigen Stadtentwicklung im städtischen Lagos.

Die Studie verwendet eine qualitative Methodik und Primärdatenerhebung durch halbstrukturierte Interviews mit Stadtplanern, Vertretern des Ministeriums für Raumplanung, Bewohnern und Entwicklern/Managern in vier Premium-Enklaven für Fallstudien und der **EAC**. Auch Sekundärdaten aus (Online-)Archiven und Websites von Behörden und Institutionen werden für die Analysen herangezogen. Die Datenanalyse erfolgt mit MAXQDA, das wiederum gemäß den Forschungszielen in vier Kategorien dominante Themen aus der thematischen Analyse hervorbringt.

Erkenntnisse aus empirischen Analysen belegen, dass bestehende Enklaven in Lagos unterschiedliche Verwaltungsstrukturen annehmen, die im Großen und Ganzen durch die Selbstbereitstellung von Infrastrukturdiensten durch die Mittel der Einwohner getragen werden.

Trotz Bemühungen um Selbstversorgung sind die Enklaven von Lagos immer noch auf das zentrale Infrastrukturnetz der größeren Metropole angewiesen, was zu einer komplexen Infrastrukturanordnung führt. Die Zugänglichkeit von Infrastrukturdiensten wird auf subtile Weise durch die finanziellen Möglichkeiten und/oder die Bereitschaft bestimmt, sich Premium-Dienste leisten zu können. Das EAC repräsentiert eine fortgeschrittene Verschiebung in der städtischen Enklave in Lagos durch sein städtebauliches Streben nach einer Finanz-Smart-City von Weltklasse mit einer unabhängigen Infrastruktur, die im Rahmen einer neoliberalen Vereinbarung entworfen und gebaut wurde. Die aufstrebende Stadt konsolidiert die städtische Enklave in Lagos weiter und wirft Fragen der Verschlechterung soziophysischer Disparitäten auf. Auch die Bereitschaft der städtischen Eliten, ihre Infrastruktur bereitzustellen, könnte dazu geführt haben, dass die Regierung in Lagos nur zögerlich und langsam Infrastruktur bereitstellt, wodurch versehentlich ein großer Teil der Bevölkerung, die außerhalb der Enklaven lebt, ignoriert wird.

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List of Abbreviations

BI	Banana Island
BIPORAL	Banana Island Property Owners and Residents Association Lagos
BRT	Bus Rapid Transit
EAC	Eko Atlantic City
CBD	Central Business District
CCTV	Closed Circuit Television
CDA	Community Development Association
CI	Critical Infrastructure
CRRA	Carmichael Road Residents' Association
CSR	Corporate Social Responsibility
DISCO	(Electricity) Distribution Company
EKEDC	Eko Electricity Distribution Company
ERAs	European Residential Areas
FESTAC	Festival of Arts and Culture
FMWH	Federal Ministry of Works and Housing
GENCO	(Electricity) Generating Company
GRA	Government Residential Area
ICT	Information and Communication Technology
IE	Ikeja Electric
IPP	Independent Power Plant
IUCN	International Union for the Conservation of Nature
LAMATA	Lagos Metropolitan Area Transport Authority
LASBCA	Lagos State Building Control Agency
LWC	Lagos Water Corporation
MDGs	Millennium Development Goals
MPPUD	Ministry of Physical Planning and Urban Development
MRA	Magodo Residents Association
NERC	National Electricity Regulatory Commission
NTDA	New Town Development Authority
NURTW	National Union of Road Transport Workers
PMP	Preventive and Maintenance Plan
PPP	Public-Private Partnership

RTEAN	Road Transport Employers Association of Nigeria
SRA	Slum Rehabilitation Authority
SD	Sustainable Development
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa
SS	Social Sustainability
TBS	Tafawa Balewa Square
TRAC	Tardeo Rehab Action Committee
UN	United Nations
UNEP	United Nations Environment Programme
VGC	Victoria Garden City
VI	Victoria Island
VGCPORA	Victoria Garden City Property Owners and Residents Association

Chapter One

Introduction

1.0 Overview

The urban form in Lagos is rapidly changing due to the incursion of elitist and economic interests in its urban planning and physical development approaches (Lawanson, 2021). The city has, especially in the last three decades, witnessed the development of new premium residential spaces, given the need for city expansion to accommodate its fast-growing urban population. The Victoria Garden City (VGC) and Banana Island residential enclaves are notable examples. More recently, the Eko Atlantic City (EAC) was initiated. The new city project aims to address the environmental challenges facing the Lagos coastline and strategically position Lagos as Africa's top real estate hub. The city project is a collaboration between the Lagos state government, the federal government of Nigeria and private investors through the reclamation of land (10- million square meters) that has been eroded due to coastal encroachment by the Atlantic Ocean off Ahmadu Bello way, Victoria Island. Specifically, the EAC was inaugurated in 2009 and is managed by South Energyx Nigeria Limited. The city represents an ideal residential and business environment with self-sustaining infrastructure networks for residents.

> "... Eko Atlantic's district planning showcases the best of urban design with an impressive mix of residential and commercial developments. There are more than 10 kilometres of stunning waterfront promenade while boutiques, restaurants and recreational destinations would create ideal conditions to live, work and play for residents and tourists alike. An international school will offer world-class education in a safe and comfortable setting. First-class healthcare is also essential. So, Eko Atlantic's international hospital will ensure patients are well treated. And of the largest shopping malls in Sub-Saharan Africa will become a prime destination and icon of style..." (https://www.ekoatlantic.com/media/video-gallery-2/; 06:23 – 07:10)

In light of the above description, the EAC represents a new level of urban enclaving in Lagos. The emerging city is the largest manifestation of urban enclaving in Lagos and, by extension, Nigeria. The EAC largely differs from existing enclaves in terms of its much larger development scale and scope through its mixed-use city design system. Also, the emerging city takes enclave urbanism in Lagos to a new level as its privately planned and funded city infrastructure is expected to contribute to the growth of the Lagos metropolis through increased housing stock, foreign direct investments and income from tourism activities. Thus, the EAC represents a departure from other enclaves and yet, its development is somewhat guided by

lessons from existing enclaves in Lagos. For instance, the city's wholly independent city infrastructure systems are, perhaps, an afterthought considering the realities of infrastructure support for the city from the Lagos service base. Also, the city is an outcome of a neoliberal concession between the developers and the Lagos and federal governments of Nigeria. That is, the EAC is a neoliberal urban development input. This study defines neoliberal (urban) development as a city development approach largely driven by private investments and development initiatives in the interest of expansion and capital gains but with less input or regulation from city governments or administrators. Within the Lagos context, it translates that the government allows city development and expansion activities through private initiatives backed by a memorandum of understanding that secures interests. This development approach guarantees a high level of self-administration, development control and infrastructure investment.

Nevertheless, infrastructure provision, management and integration between the EAC and the Lagos metropolitan area raise concerns for city planners and scholars. A pertinent concern is understanding what and whose interests the emerging city serves within the general urban Lagos context. There are interrogations on the existence of a plan for the integration of infrastructure networks which conforms to literature and normative theoretical principles. In addition, accessibility and experiential challenges for the urban poor which make up 70% of Lagos (Olajide, 2018) are questionable. Also, the EAC could further consolidate the fragmentation of the Lagos urban landscape- which has birthed residential enclave development across Lagos (Barredo & Demicheli, 2003; Lawanson, 2021). With its independent infrastructure system, there are urban functionality concerns in light of enclave urbanism debate and from the dimension of social sustainability about the provision, integration and functionality of infrastructure such as electricity, water system, transportation, etc. Already, residential spaces across neighbourhoods and communities in Lagos grapple with inefficiencies and dysfunctionalities that have characterized infrastructure provision and management across the metropolis in the past decades. This outcome is an after-effect of an ineffective urban management and infrastructure provision approach, giving rise to the institutionalization of enclaves' development – as is the case in some other major cities of Sub-Saharan Africa. A major push sustaining the enclave urbanism outcome is fast-paced urbanization.

Notably, rapid urbanisation comes with its attendant challenges, which include the provision of basic physical and social infrastructure (such as transport, adequate housing, qualitative education, proper sanitation systems, and good health care services, among others), management of the environment to address challenges such as global warming and climate

change, poverty, slum emergence among others (Urban Age, 2013). There is a need to focus on providing a functional and well-integrated infrastructure system to service the growing population. Infrastructure is inevitable and ancillary to towns and cities. Countries such as Singapore, Hong Kong SAR, Switzerland, Japan, Finland and Germany are highly rated in terms of the quality of Infrastructure of their towns and cities (www.statista.com). In the broader scholarly debate, some of these infrastructures (such as transport, energy services, telecommunication, water supply systems and emergency services) are described as *critical* based on factors such as the impact or severity of their interruption or incapacitation on socioeconomic and technical systems and, the capital-intensive nature of their development and management (Moteff et al., 2003; Brown et al., 2006; Lukitsch et al., 2018). Within the KRITIS Research Group, this study positions itself in the criticality debate through the *infrastructure stability* narrative. The key indices are interruption-free, accessibility, and positive experiential outcomes. Moreso, contemporary city planners and administrators across the globe have recognised the importance of public as well as private investment in infrastructure, as this plays a huge role in city sustainability and serves as a hotbed for living, working, recreation, and the exchange of goods and services (Graham 2000). However, experiences or outcomes of infrastructure investments and priorities vary across urban contexts and are partly driven by development forces or patterns.

Within the Sub-Saharan African context, urban development patterns over the past two decades have shown the renewed scramble for Africa as the new global destination for development and investment. More so, African governments have recently embraced public-private investment in infrastructure. In some cases, there usually emerge enclaved cities with "modern" or high-tech infrastructure plans. These types of enclaved cities attempt to (re)define the African experience of enclave urbanism. They are characterized by self-sustaining, independently planned infrastructure, city, and living patterns, away from the pre-existing towns and cities; and emerged because of the need to upgrade the forms and functionalities of existing urban centres to match up with those of the global West (Lemanski, 2007). While Bhan (2013) and scholars such as Watson (2014) have seen the idea as fantasies and being complex and contradictory, attempting to justify neoliberal development; Cain (2014) acknowledged some audacities in these fantasies but also made a case for some of these African fantasies becoming a reality, such as in Luanda, Angola. Scholarly concerns are genuine because these fantasy cities are planned to reflect images of cities such as Dubai and Singapore, as explained by Watson (2014). Within the Lagos urban context, this research aims to address the above concerns to understand the forces and factors at play in infrastructure provision and

management from the enclave urbanism experience (based on experiential outcomes and emerging realities), making a case in the realm of social sustainability for the emerging EAC.

This introductory chapter is structured thus. The next section provides a background to the city expansion paradigm concerning socioeconomic stratification and its resultant influence on infrastructure outcomes. From a historical context, this section examines the origin, approaches, and outcomes of infrastructure paradigms across different socio-economic groups. Although the research context concerns Lagos and its enclaves, a section on infrastructure paradigms and their origin is deemed necessary to establish knowledge about how events and activities in early urban civilization in the global North resulted in spatial segregation along socio-economic lines. Also, it helps to establish how forces, inputs, or perceptions from the global North may have played some silent roles in consolidating the enclave urbanism phenomenon in the global South. The second section captures the statement of the problem for this research. It explores how the forces and trends of urbanisation in Lagos have resulted in infrastructure complexities concerning provision and management and, the emerging issues of socio-spatial fragmentation fuelling the enclave urbanism phenomenon. The third section presents the aim, objectives and research questions for this study. The last section presents the overview of the chapters, presenting highlights of the contents of subsequent chapters.

1.1 Contextual background: Spatial transformation and the rise of enclaves

Essentially, enclaves are an actual response to cities' socio-spatial challenges. Today, enclaves have become dominant features across urban centres, creating spatial issues of concern. From early civilization, spatial divisions emerged for various reasons, including forming ethnic clusters/cultural familiarisation, economic interests and political power playouts (Lemanski, 2007). In most of these cases, ethnic group assimilation created tension as those who identified as "majority or influential" determined the patterns of urban segregation (Johnston et al., 2002). This phenomenon became pronounced during the 1950s and 1960s, especially after World War II and the emergence of industrial and car-friendly urban transformation, which worsened social problems, poverty and unemployment across neighbourhoods and urban centres (Lemanski, 2007; Barton & Gibbons, 2015). Across the board, the experiences of spatial transformation and socio-spatial delineation resulting in enclaves vary. There are notable factors and triggers, similar in some urban contexts `and sharply unrelated when different contexts are compared and contrasted. For instance, experiences across the global North are quite similar. Nonetheless, there are different contextual realities when the narratives across European cities are compared with those in North America.

The urban industrial transformation in European cities led to the demand for unskilled labour to support professionals. The influx of unskilled migrants thus led to the demand for housing and other social amenities, and this, in turn, led to socio-spatial segregation among urban residents, as there emerged the stratification of urbanites *according to income and class into polarised socio-spatial sectors* (Lemanski, 2007, pp 450). The members of different socio-spatial sectors have different levels of access to infrastructure and amenities. The highly skilled professionals lived in areas serviced with potable water, sanitation services, electricity supply and good roads, while the unskilled migrant workers had to settle in places with poor amenities. In Britain, there were strong concerns in the late nineteenth and early twentieth century regarding the appalling living conditions of the industrial workers, especially those of the middle class, despite urban industrial growth and expansion (Hamnett, 2003). This socio-economic spatial advantage also played out in the case of America.

Although America experienced social segregation as early as the late nineteenth century when cities such as New York, Boston and Chicago experienced deep socio-economic segregation that led to widespread poverty among the low- and middle-income groups (especially pronounced among the workers) despite the industrial boom, it was not until the 1940s that it became a social debate. The issue gained scholarly attention after the urban riots against class and segregation in the mid-1960s (Rose, 1970). Using the experience of the city of New York, Reichl (2007) opines that there had existed a sustained division in cities: between neighbourhoods delineated by socioeconomic advantages and disadvantages. This observed socio-economic disparity has led to different infrastructure provisions and or accessibility across neighbourhoods in urban centres. Consequently, declining infrastructure quality and functionality have inadvertently led to the emergence of enclaves in some urban centres across the world, manifesting in selective connection to networks and services; while surrounding urban spaces gasp for provision of, and access to, quality services (Douglas, Wissink and van Kempen, 2012). This sharp variation in infrastructure quality is more pronounced across cities of the global South.

The global South presents narratives that are slightly unrelated to those of the global North. Despite this, there are some similarities within its context. Given their rapid urbanisation, varying infrastructure quality and access are a notable occurrence across cities of the global South. However, while industrialization triggered urban inequality which resulted in spatial transformation into enclaved spaces in the global North, spatial transformation and delineation in the global South have been, by and large, triggered by sociopolitical and economic factors. For example, there is the case of Lagos, Nigeria, where spatial and infrastructure delineation

established by colonial imprints and a high rate of urbanization without corresponding socioeconomic growth and development institutionalized urban enclaving (Gandy, 2006; Olajide, 2018; Lawanson, 2021). Another notable example is Cape Town, South Africa, where the apartheid era and high crime rates influenced spatial delineation into enclaves (Lemanski, 2007). Irrespective of their contextual factors or triggers, urban enclaves are becoming a common feature across cities in the global South, subtly sustained by development and economic speculators.

Notably, there has been the development of enclaves within Sub-Saharan Africa's urban centres such as Kigali, Nairobi, Dar es Salaam, Luanda and Lagos. Recent examples include Vision City located outside of Kigali, the capital of Rwanda (currently being built); Konza Technological City located 60km outside Nairobi in Kenya (scheduled to be completed in 2030); Waterfall City located between Pretoria and Johannesburg in South Africa (which is in the latter stage of its development) and the Eko Atlantic City - which is emerging from land reclaimed from the Atlantic Ocean at the shore of Lagos, Nigeria. These cities have been planned and developed because of recent interest in Africa as the new frontier of international property development (Watson, 2014). Today, socio-economic stratification (especially due to the rising poverty level that has worsened the inequality gap) is one of the predominant driving forces of spatial fragmentation. There has been a sustained walling off of urban landscape components to create exclusive and gated living spaces.

Consequently, sustained spatial fragmentation is one of the effects of socio-economic seclusion in the Lagos urban space, resulting in the development of residential enclaves with preferential access to, or provision of, infrastructure and social amenities. Today, enclaves have become an extreme feature of Lagos' urban landscape. This urban development outcome seems to have bypassed the urban poor and vulnerable from benefitting from city planning, and management inputs in the Lagos metropolis and thus raises the question of inclusion and social sustainability. This study in the context of the SSA debate and incorporating neoliberal development and the fantasy debate about emerging enclaves across SSA (Bahn, 2013; Cain, 2014; Watson, 2014) examines the realities of a development subtly informed by approaches and patterns of cities in the global West. The implications of the development on existing urban populations, the realities and possibilities of functionality, and infrastructure integration based on the assessment of the experience of enclaved spaces in these African cities have not been adequately considered by scholars. An assessment of the experiences of these African enclaves is still pending and is a research gap that this study addresses.

1.2 Statement of the Problem

Urban management ideals dictate that city planners and administrators anticipate and plan for issues that come with urban growth and development (Li et al, 2018). Contrariwise, in the last three decades, Lagos seems to have lost its grip on physical planning and urban development coordination in the city (Heinrich Böll Stiftung, 2016). The urban form and functionalities of Lagos over the years have been defined by: its status as the capital of Nigeria until 1991; the economic hub of the country; its population advantage as well as its geographical placement. However, in recent times, Lagos' quest to attain a globally-renowned megacity status has redefined its urban form and functionalities and set some unprecedented changes in its physical structure. For instance, since early 2000, land and housing have gradually become expensive commodities, owing to high demand majorly for residential and commercial uses. This has sustained the process of suburbanization in Lagos. Suburban communities and towns such as Ikorodu, Otta and Mowe-Ibafo axes experienced unprecedented population growth due to the high cost of living and housing challenges at the core of Lagos. This subtly portrays Lagos to be a high-income city. Recent urban development input tends to support high-class physical development, mostly in the form of enclaving. Residential enclaves such as Banana Island, Dolphin Estate, Park View, Victoria Garden City and recent ones along the Lekki-Ajah support the ongoing narratives. Despite this reality, there is a dearth of studies examining the changes in Lagos' urban form and functionality influenced by its population growth.

Nevertheless, some urban studies have examined the realities of developmental initiatives in Lagos, especially in its quest to meet the infrastructural demands of its teeming population. One of the most recent and perhaps, the most critical is that by Olajide (2018). It x-rays the realities of Lagos's urban development vision, establishing that existing urban development visions and targets of Lagos (such as making Lagos a model megacity within the African continent and a global economic city that is just and sustainable with a reduced poverty index) are somewhat unachievable. This is owing to the failure of development initiators and policymakers in the city to plan in line with the socio-economic realities of Lagos. This malady manifests in population pressure and a demographic transformation that seemingly overshadows the government's capacity to deliver. It is not only in terms of governance but also in its capacity to make provision for the needs of the people. The implication is that new living spaces along socio-economic lines are springing up, especially along the Lekki-Epe axis. The consequence is manifested in the form of urban blight as resources are not enough and the infrastructural facilities are not there to meet expected needs.

The provision and management of infrastructure in Lagos over the years have been shared responsibilities among the three tiers of government: Federal, State and Local. For instance, the federal government builds and maintains federal roads and inter-state rail networks. It also until 1 November 2013 was responsible for electricity provision and distribution, which is now managed by two private companies. The Lagos State government in collaboration with local governments in the state are responsible for the construction and maintenance of state and local roads, sewage and waste management services, water provision, jetty services and healthcare service provision. Collectively, the state and local governments have struggled to provide these infrastructures and services and residents have had to put up with substandard and erratic services (Gandy, 2006; Olajide, 2018; Lawanson, 2021). As an escape strategy, Lagos has witnessed the sustained development of premium enclaves which provide relatively functional infrastructure services for mostly high-income residents who can afford such. This has been driven mostly by private developers, who through state-supported urban expansion initiatives capitalised on the gaps in infrastructure provision across the metropolis to develop what is popularly called "residential estates" with privately funded and maintained infrastructure networks. This sustained enclave development has had little or no transformative effects on the Lagos infrastructure plight as the majority of its fast-growing population is poor and (still) lacks access to basic infrastructure and services. Further, the planned independent infrastructure and city system in the EAC raises the question of whether preferential or stratified access to infrastructure in urban centres is acceptable. Instructively, in this study context, the prefix "premium" is used with the word "enclave" to describe wholly high-income residential enclaves, such as the selected case study enclaves and others to be referenced, given that, across all categories, they are prime examples of enclaved residential living. Hence, the use of the term "premium enclave" or "premium residential enclave" in some instances as this study progresses.

The experiences of residential enclaves that are a visible part of the Lagos urban landscape potentially guide development proposals and outcomes in the EAC, especially on infrastructure provision and management. However, there are existing issues arising from the debates on urban enclaves in Lagos. These include questioning the ideals or motives sustaining the enclave urbanism experience in Lagos and exploring the realities of the self-provisioning of infrastructure. In addition, there are contestations among urban stakeholders on whether the emergence of premium residential enclaves in Lagos strengthens or weakens the urban structure or not. The foregoing guides the methodological approach for this study. Instructively, there is a need to assess the functionality and failures of infrastructure in existing Lagos enclaves. It

serves as the basis for policy and development guide in the provision, integration and management of infrastructure in the EAC, while at the same time getting to understand social sustainability issues and contributing to the advancement of the enclave urbanism debate.

1.3 Aim, Objectives and Research Questions

The research aims to explore infrastructure provision and integration possibilities in the emerging EAC based on a case study assessment of existing urban residential enclaves in the Lagos metropolis and thus contribute to the larger academic field of enclave urbanism, anchored on social sustainability debate.

The formulation of the research aim has necessitated the adoption of 4-stage research objectives for this study. Each research objective provides a roadmap for the attainment of the set aim through in-depth conceptualisation and socio-spatial empirical investigation, and where necessary, a combination of both. The researcher begins with a performance assessment of infrastructure in existing enclaves. The focus is the infrastructure management and development realities as well as the infrastructure functionality of urban enclaves in the Lagos context. It provides a basis for assessing the ideals and motives sustaining urban enclaving across the Lagos metropolis. The next step of the objective is the understanding of the planning and implementation ideals of the development initiation that birthed the EAC as well as its quest for an independent infrastructure system. It is followed by an evaluation of and projection for infrastructure functionality and management between the emerging EAC and the urban Lagos. The last step is the identification and analysis of developmental issues about enclave spaces, infrastructure provision and social sustainability outcomes. Succinctly, the objectives are presented below:

a) To assess the structure, infrastructure management and provisioning approaches of existing residential enclaves in Lagos.
b) To examine the planning and implementation aspirations and the development realities of an independent infrastructure system in the emerging EAC.
c) To analyse issues of infrastructure provision and integration between the EAC and Lagos.
d) To explore issues of urban sustainability posed by enclaves through the development of exclusive space and infrastructure systems in the Lagos urban context.

From the foregoing, this study seeks to address the following research questions:

a. What lessons can be drawn from infrastructure provision and functionality assessment in existing residential enclaves of Lagos?

b. How does the planning and implementation of the EAC concerning its urban aspirations differ from its development realities?

c. What are the issues of concern in the emergence of the EAC to critical infrastructure provision and integration in Lagos?

d. In which ways does exclusive infrastructure provision as a manifestation of enclave urbanism relates to social sustainability (issues) in the Lagos urban context?

1.4 Dissertation outline

An overview of the chapters is presented here by highlighting the major focus and sub-themes that each chapter explores and how they relate to the broader aim and objectives of this study.

The second chapter captures a review of the literature and the formulation of the conceptual framework for this study. It begins with a discourse on the enclave urbanism phenomenon, exploring its definition, factors and forces as well as experiences in different cities across the globe. The influence of globalisation, neoliberal urban restructuring and policy transfer is captured and related to the present-day sociospatial delineation along socioeconomic lines across large urban centres of Sub-Saharan Africa. This part also captures the works of African scholars who have explored the development of premium enclaved spaces and their context-specific assessment. It is followed by an examination of the (social) sustainability concept, exploring its origin, and dimensions and tracing it to how the elements of social sustainability translate to urban sustainability. The third part of this chapter explores the concept of infrastructure and its criticality. It highlights how and what defines the criticality of infrastructure and the interrelationship between infrastructure integration and land use planning. The last part of this chapter presents the conceptual framework, adopting a context-specific approach which is largely influenced by the work of Schuermans (2016) through a four-staged framework approach.

The third chapter presents the methodological approach of this study, highlighting the research design and approach. The first part presents the qualitative method adopted for this study, highlighting the research design and justification. The case study design is adopted to explore the enclave urbanism phenomenon in the Lagos urban context. Five case study enclaves are examined: four existing premium enclaves and the emerging Eko Atlantic City. The justification for this case study context is presented, including Lagos as one of the fastest growing urban centres in SSA and its historical background of colonial urban sociospatial fragmentation. The next part presents the sampling method. The purposive sampling method is adopted based on the availability and or length of residency of enclave residents and other categories of respondents. The third part of the chapter presents the different steps in analysing the data for this study. This is followed by explanations of ethical considerations observed and ensured during the research. The last part concludes the chapter.

The fourth chapter captures the research context. It presents a background into the historical and present-day realities of key issues that define the context within which this study is situated. The first part of the chapter captures the definition, classification and historical analyses of residential enclaves in Lagos. It clarifies the distinction between *gated community* and *enclave* in the Lagos context and examines how the colonially-influenced spatial delineation institutionalised the enclave urbanism phenomenon across the urban landscape of Lagos. The second part of the chapter chronicles the urban development outcomes and the Lagos enclave urbanism conundrum. This part explains how the (mis)management of urban development outcomes in the past three decades has triggered urban enclaving within the Lagos context. The third part of the chapter presents an overview of the case study premium enclaves. It highlights their development and management characteristics within the Lagos context. Part four of this chapter presents a brief overview of the Eko Atlantic City, the last case study enclave. However, less information and analysis are presented because the chapter is fully empirically examined in the first empirical chapter of this study. The fifth part of this chapter describes the urban characteristics of Lagos concerning infrastructure provision and management. It is done from a historical perspective while also exploring present-day realities. The last part explores governance, infrastructure and planning in Lagos. The focus is on assessment and imperatives.

The fifth chapter is the first empirical chapter of the dissertation. It presents the characterisation of urban enclaves in Lagos. In other words, this chapter presents the assessment of the outcomes of enclave urbanism concerning the justification and motives of enclaving,

infrastructure approach and, issues of concern in existing case study premium enclaves of Lagos. It is structured into three parts. The first part of the chapter captures the justification and motives of enclaves in the Lagos urban context. It examines how security, physical order and, management control and regulation fuel interest in premium enclave living. The second part of the chapter examines the infrastructure provision and management approaches in selected case study enclaves. It analyses the roles of the management organisation or residents' associations in infrastructure funding, development and management. Also, the role of the government is examined and cross-referenced concerning its statutory roles and responsibilities. The third and last part of this chapter presents issues of concern regarding the realities of infrastructure outcomes and their implication for the urban planning and management of Lagos.

The sixth chapter is the second of the three empirical chapters. It captures the planning and implementation of the Eko Atlantic City through an assessment of its projections, development realities and changing infrastructure ideals. The goal is to assess the physical development realities of the project in light of its projections as an emerging world-class premium enclave in Lagos. This chapter is structured into three parts. The first part captures the urban planning projections of the EAC. It is assessed under three subsections which are the environmental shoreline protection initiative birthing the EAC project; the mixed-use smart city development and, the tourism destination projection. These three capture the key projections of the EAC projects when assessed in the realm of its development aspirations. The second part of the chapter explores the development realities of the EAC and is captured under three subsections. The first subsection presents the development arrangement concerning its management and institutional link to Lagos. The role of the different departments and agencies in physical planning and development is assessed. The second subsection examines the socioeconomic issues of the EAC in light of its benefits or otherwise to the general urban Lagos given that the city benefits from a general public good: the shore area that is extended into the sea. The third subsection examines the projections and realities of an independent infrastructure system for the city. The third and last part of this chapter examines the EAC in the realm of enclave urbanism realities under two subsections: its elitist interest and, the changing ideals of urban infrastructure. The last subsection concludes this chapter.

The seventh chapter is the final empirical chapter of this dissertation. It captures the interrelationship between infrastructure, integration and urban sustainability in the realm of enclave urbanism. It explores the context-specific issues of urban enclaving in Lagos. It is structured in three parts. The first part examines the perception analysis of Lagos' infrastructure

provision and issues of integration. This assessment is, in turn, streamlined to capture infrastructure profiling of the EAC and issues of integration. The second part of this chapter examines the issue of infrastructure criticality and issues of urban sustainability concerning enclave urbanism in Lagos. It focuses on Lagos' enclaves and issues of urban sustainability under four subsections. The first subsection examines land use management and issues of urban sustainability. It assesses how incoherent land use management complicates urban development management in Lagos. A resultant issue is the difficulty in integrating premium enclaves into the Lagos urban system. The second subsection examines how issues of sociospatial disparity affect the urban sustainability of Lagos. The third subsection examines how issues of infrastructure funding in Lagos relate to issues of urban sustainability. The last subsection captures urban security issues and their implication for the urban sustainability of Lagos.

Chapter eight is the concluding chapter. The first part captures the summary of findings for this research. The second part captures the considerations for urban research within the Sub-Saharan Africa enclave urbanism debate. These considerations are presented in three subsections. The first subsection captures the issue of neoliberal restructuring of space in the interest of capital. It poses the need to re-examine the urban development approaches within the SSA context. The second subsection captures issues and realities of the institutionalisation of elitist urbanism as a bypass effect of urban development outcomes within the SSA perspective. The third subsection examines how spatial reorganisation is a strategy to escape the infrastructure deficit and beat the hurdles of underdevelopment across fast-growing urban centres of SSA. It explores how accessibility and varying experiential outcomes are key issues of urban development lopsidedness within the SSA context. The third part of this chapter concludes the dissertation and presents some recommendations.

Chapter Two

Enclave Urbanism, Infrastructure and Sustainability: Review of Literature and Conceptual Framework

2.0 Introduction

The emergence of the EAC signifies a new dimension in planning for Lagos. It is based on a residential and business approach, i.e. it combines residential living with business and commercial activities through a mixed zoning approach such that people can entirely live in the city without interacting with other parts of the metropolis. In addition, the EAC is supposed to provide some economic benefits to urban Lagos. It is emerging in the SSA context where there are rising debates about the intents and aspirations of recently emerging premium enclave spaces that are designed and developed in the similitude of cities in the global North. Notably, there have been attempts and efforts to understand and adopt paradigms that reflect geographical peculiarities and realities in the last three decades. It is because most of the existing theories and postulations have their roots in the global North, making them deficient in intellectual pluralism and beset by doubts of claims to universality (Robinson, 2011; Scott and Storper, 2014). As a result, there has been a rise in the call for the need for more empirical studies that seek to understand the patterns and manifestations of urban life and living. That is, understanding the factors, elements and roles of local knowledge and postulations in urban changes and transformations over time and space (Schuermans, 2016). One such aspect of urban research is enclave urbanism. The focus here is on cities in Sub-Saharan Africa and what has been the driving force(s) behind this phenomenon.

As part of such empirical investigation processes, this chapter is based on an assessment of key concepts and theoretical postulations covering the premise of this study. The goal is to establish knowledge of what has been done and then identify the gap that this study aims to fill, thereby foregrounding a basis for this thesis. The chapter establishes an understanding of the enclave urbanism phenomenon and its issue(s) of concern in the management and integration of infrastructure, anchored on the social sustainability debate. The focus is on literature and concepts in the global South. Notwithstanding, there is a tendency to rely on global North approaches and concepts for clarification and better conceptualisation of what is missing in the global South perspective. It helps in uncovering the problematic interrelations of urban theories between the global North and South. In the light of empirical research, this chapter seeks to develop a conceptual framework for analysis, informed by literature on enclave

urbanism, infrastructure planning and social justice in the context of sustainable development. It begins with assessing and understanding the enclave urbanism phenomenon from urban planning perspectives and assertions from studies. The driving factors behind the enclave urbanism phenomenon are identified and categorised into three major themes: globalisation and neoliberal urban restructuring, post-industrial urban development, and relational factors. The implications of the outcomes of the enclave urbanism phenomenon are also discussed in light of experiences from cities/urban centres. There is the context-specific discourse of enclave urbanism experiences and manifestations in selected regions: Mumbai, Cape Town and China.

Further, the concept of sustainability in light of sustainable development is discussed and analysed. The goal is to establish how the enclave urbanism phenomenon relates to or raises the issue(s) of urban social sustainability. In other words, the relationship between premium enclaving and urban management issues concerning inclusion, accessibility and the right to development is examined. Also, the concept of critical infrastructure is discussed concerning provision and management. The discourse is analysed with respect to infrastructure development and sustainability, focusing on (sustainable) transport infrastructure planning (approaches and challenges). The focus is majorly on transport infrastructure (out of the three assessed: transport, electricity and sewage) because it requires integration with other parts of the urban centre, unlike others which can be independently planned, built and managed. A conceptual framework is built up for this study in the final section. The conceptual framework has been developed based on a context-specific approach. This approach investigates the enclave urbanism phenomenon in Lagos through an assessment of the ideals and aspirations of the emerging EAC; assessing and evaluating experiential outcomes of infrastructure provision, functionality and management in case study premium enclaves; analysing the prospects and realities of independent infrastructure provision in the emerging EAC; and making a case for urban social sustainability in Lagos in the light of enclave urbanism and issues of infrastructure provision and management.

2.1 The Enclave Urbanism Discourse

This section examines the enclave urbanism discourse from academic debates drawn from urban planning perspectives. It establishes an understanding of enclave urbanism's meaning and related concepts while assessing specific contexts and outcomes. This section's

relevance is to help identify the gaps in knowledge of enclave urbanism in the global South. It, in turn, helps in formulating a conceptual framework for this study.

In the last two decades, academic debates on urban enclaves focused mainly on structuralist examinations of their causes and effects. They describe enclaves as contributing to the increased fragmentation of urban spaces and society. Splintering infrastructure and service provision are some of the main features of this development. A relational perspective of these urban enclaves is so far missing. As will be seen, the review in this section shows a deficit in the knowledge and theory that emanate from the global South, necessitating a call for the need to adopt a context-specific theoretical approach for the SSA. The argument here is that the manifestations of the factors, forces, elements, events and outcomes of enclave urbanism have distinct geographical peculiarities and, possibly, socio-economic characterisations, which could be, in most cases, traced to historical underpinnings. Hence, different narratives and understandings would emerge from different contexts.

2.1.1 Definition, explanations and triggers of enclave urbanism

Urban enclaves are *exclusionary planned and organised spaces* separated from surrounding developments by physical or regulatory boundaries. They are characterised by the preferential provision of and access to basic amenities and services such as social and technical infrastructure systems like electricity, water supply, centralised waste management system, urban security services, shopping malls and office towers (Wissink, 2013). For Schuermans (2016), enclaves are areas with *enclosed, monofunctional forms*- characterised by socio-spatial territories shielded away by fences, walls, legal instruments, and government support. The *gated community* is a term that is sometimes used interchangeably with *enclave* because it is assumed in practice that *gated communities* are often exclusive places with a strict boundary set up. However, it is a narrower term that does not capture or emphasise planned restriction/seclusion fuelled by socio-economic privileges but instead spells out boundary set-up. This translates that gated communities are similar to enclaves in terms of boundary set-ups but differ from enclaves in that they are usually not planned/organized and sustained by elitist interests. In the case of Lagos, there are, for instance, gated communities that host people in the lower socio-economic cadre but the urban enclaves usually host people in the upper socioeconomic class. The description of *planned and organised spaces* makes *enclave* a more appropriate term to analyse these urban living spaces. According to Breitung (2012, p 279), enclave spaces are "obviously not only distinguished by their spatial form but also by their

social characteristics as well as their mode of neighbourhood governance. Private and state actors play different roles in the different types, and residents are involved in different ways".

Globalisation, mobility and economic liberalisation are forces that have inadvertently or otherwise led to the emergence of urban enclaves (Wissink, 2013; Iossifova, 2014). For scholars such as Bhan (2013), Watson (2014) and Cain (2014), *globalisation and neoliberal urban restructuring* are the predominant forces that have triggered the sustained attempts by city administrators, urban elites and developers to create spaces of socio-physical exclusions. It is especially the case in cities of the global South, where there has been a rise in the number of premium enclaves designed to match the socioeconomic status of the cities of the global North. This (global South) scenario implies that enclaves as urban development models are transferred from urban ideals and patterns of the global North to, and adopted by, cities of the global South (Watson, 2014). This notion is acknowledged by Lemanski (2007) in her work which focuses on analysing events and aspirations of the global cities of the South (using Cape Town as a case study). The author notes that the problem of selective fragmentation (i.e. enclave urbanism) and neglect across urban centres of the developing world could be traced to the aspirations of these cities to meet the standards of the cities of the global North, such as London, New York and Paris. Thus, as is the experience of Lagos, developers and policymakers in developing cities seem to be more "financial prospects" oriented rather than focus on city building to ensure social, environmental and economic sustainability (Olajide et al., 2018).

Also, it was posited that *post-industrial urban development*- the transition of cities from predominantly industrial to commercial, economic and financial centres- has also aided the emergence of enclave urbanism. In their account of the Chinese experience of post-industrial urban transformation, Douglas et al. (2012) narrate how urban centres gradually became commercialised. With thriving economic activities and an increasing number of migrant workers, cities became more populated. It, in turn, put pressure on available infrastructure and services, resulting in scenarios such as extensive traffic flows and a rapid rise in heterogeneous socio-economic segregation. Spatial inequality, decay and inefficiencies became apparent across urban centres. The upper-middle-class started to migrate to housing estates, thereby segregating themselves in planned neighbourhoods in commodity housing estates and thus, resulting in the restructuring of previously compact cities into enclaves, each hosting a selected group of people and activities (Douglas et al., 2012). Wissink (2013) states that the predominant driving force behind this urban approach is the urban elites who seek better and protected experiences of urban life and living. In a much earlier study, Marcuse (1997) posits that urban enclaves (and Ghettos) had existed across cities and in various physical patterns right from time,

noting that the quest by some urbanites to depict class and status using urban physical arrangement is not a new phenomenon. In addition, experiences have shown that there have been sustained moves to plan cities and regulate activities in space right from the first civilisation. Several reasons have been identified for such ambitions: defence, property rights regulation, economic development, and poor social and environmental conditions (Adolphson, 2011).

Further, a significant issue of concern is that interventions or attempts to upgrade urban centres usually come with the consideration of prospects for short- and long-term socio-economic benefits instead of concerns for urban balance and consolidation that should take care of the needs of all categories of residents- especially the urban poor (Amin, 2013). The pursuit of socio-economic benefits as a basis for urban development and expansion has, in turn, led to widening inequalities and the characteristic commodification of the urban landscape. It explains why development across cities (especially in the global South) usually tilts towards fragmentation of the urban landscapes into enclaves that are only affordable to the urban elites. Amin further describes the ideas as "telescopic urbanism", owing to its restricted view of the urban components and entities, especially regarding the neglect of the urban poor- who should be seen and treated as having equal rights and entitlements to the city.

Relational factors such as sociopolitical interests, commerce, transportation, mobility, etc., should be considered to examine the emergence of urban enclaves (Schuermans, 2016). This approach projects an understanding of the factors, forces and elements at play in the emergence of city development and fragmentation. An example is the Chinese experience of enclave urbanism, where city fortification aimed at preventing attacks from enemy territories due to prevailing or anticipated unrest was the predominant factor that led to the development of walled cities and gated communities. In addition, enclave urbanism may result from *bypass urbanism*, where regulatory frameworks, geographical delineation, and socio-economic settings are bypassed to create new urban areas or zones of affluence and exclusivity (Sawyer et al., 2021). Such a *bypass urbanism* can rarely be attributed to a particular urban policy or a single group of actors. Instead, "… bypass urbanism is the result of pragmatic decisions made by a variety of actors in their interests: incapacitated state actors making use of readily available private capital to achieve infrastructural gain; private corporations and developers acting for profit; social groups who are willing and able to pay for higher living standards" (Sawyer & Schmid, 2017, p. 213).

Urban scholars have also noted that the last two decades of urban planning and expansion have also brought about the disintegration of cities into enclaves. For example, urban

renewal interventions transform previously mixed socio-economic neighbourhoods into new premium developments for the middle class in some instances. In some instances, the premium developments evolve into enclaves. Previous occupants may be compensated financially or given alternative accommodations in other areas. It is evident in the case of Mumbai, India (Graham and Marvin, 2001). These enclaves are backed by the introduction of social (socio-economic tools such as income and access to capital), legal (internal regulations recognised by government ministries, departments or agencies) and physical boundaries (gates, walls, fences) that often have connections with government regimes; thus, securing the interests and investments of the urban elites (Wissink, 2013).

In addition, the historic patterns of segregation were based, for example, on the need for city fortification or expansion/creation of new living spaces for the upper-middle class, which led to the development of new neighbourhoods that were nonetheless inaccessible to people in the lower socio-economic cadre. The new urban enclave phenomenon usually depicts spatially manifested differences through imbalanced developments between regions of varying sizes and components (Douglas et al., 2012). Narrating the African experience, Ajibade (2017; p.85) states that:

> unlike the colonial and postcolonial eras, recent 'future cities' in Africa are synonymous with neoliberal restructuring of space in the interest of capital. They tend to advance the interests of a growing transnational network of corporate investors, politicians, developers, engineers and architects who view sub-Saharan Africa as the last frontier for international property development.

Thus, there should be an attempt to understand the emergence of enclaves and their social effects in specific cities and establish how urban forms also relate to social practices across urban spaces (Coutard, 2002; Wissink, 2013).

From the examined debates, this study deduces that there is a need to investigate and interpret urban enclaves as the outcome of the forces of groups, actors and society, but not necessarily restrict the explanations of enclave urbanism solely as the outcome of the audacities of urban elites and government forces. Urban enclaves should be assessed and defined from the associations and societal background (like cultural epistemology, the traditional pattern of city form and land use, socio-economic links and connections) from which they emerged. These forces and factors must be analysed; where possible, experiences should be drawn from the attempts to establish areas of preference in the particular urban centre(s) in focus. Also, there is an established coherence in the description of urban enclaves. It makes it easy for this research to adopt a "working" description of *enclaves* as planned, organised, enclosed spaces, usually

supported by political/administrative tools. Indeed, these definitional criteria fit into the description of the selected case study enclaves and the emerging EAC. However, unlike the definition of enclaves, it is evident that there are different triggers of enclave urbanism phenomenon across geographical placements. Therefore, in seeking to establish the factors and forces of enclave urbanism in the study context, Schuermans' (2016) relational approach is adopted. The factors, forces, and elements at play in the emergence, development and consolidation of urban enclaves are contextually identified and analysed concerning their regulatory framework, geographical delineations and socio-economic undertones shaping the development, management and provision of infrastructure.

The emergence of enclaves comes with its attendant issues and challenges. Urban scholars and proponents of saturated urban theories have identified some of the issues and challenges. They include, first, declining investment in and or commodification of public spaces and amenities across the city (Wissink, 2013). Second, (there tends to be) restricted access to basic facilities and services for the urban population that lives outside of enclaves, thus resulting in social seclusion and widening inequality (Graham and Marvin, 2001). Third, the perception that the elites are, or could be, the drivers of development in the urban sphere is growing and gradually becoming a norm across urban centres of the world. It has led to the urban poor being deliberately pushed out into residual spaces with little development and investment potential (Wissink, 2013). Fourth, the emergence of enclaves hinders interrelations among groups, which threatens a sense of community, solidarity, and the survival of democracy (Coutard and Guy, 2007). Fifth, the safeguarding of enclaves with security personnel and CCTV cameras tend to dispel crime in places and people with no dependable security measures or provisions (Schuermans, 2016). Sixth, land acquisition for enclave development has led to some urban and rural poor being dispossessed of their land. In some cases, the dispossession of rural lands usually results in the interruption of livelihoods through farmland acquisition and the destruction of ecological settings (Douglas et al., 2012).

Notwithstanding, for authors such as McKenzie (2011), urban planners and managers can control the adverse effects of enclave urbanism, as the phenomenon may result in a general improvement in the quality of services and facilities delivery for the entire urban setting. Managing such effects or consequences will entail investigating experiences and outcomes across urban spaces over time. More so, there have been different chronicles of enclave urbanism experiences across urban centres around the globe. The next section provides accounts of such experiences and seeks to elucidate further the need to identify forms,

development patterns, processes and urban activities and how they have resulted in the emergence of the enclave urbanism phenomenon.

2.1.2 Experiences of enclave urbanism across cities

This section projects the need to examine the enclave urbanism phenomenon to establish geographical peculiarities and realities (Robinson, 2011; Scott and Storper, 2014). Here, the goal is to provide spotlights on urban enclaves in different contexts to compare and contrast factors, forces, and triggers. Knowledge and outcomes from the sub-sections will help to strengthen the notion that the kind of urban enclave depends on its specific urban context and prevailing geographical peculiarities. The first three sub-sections examine experiences from Mumbai in India, Cape Town in South Africa, and the Chinese experience. The last sub-section presents lessons from the different experiences, highlighting similarities and incongruities.

The Mumbai (India) experience of enclave urbanism

The Mumbai experience shows that emphasis on the institutionalisation of elitist interest (propagated by the *Narrative of Loss;* see below) may not be appropriate to establish an academic discourse on urban enclaves. Instead, there should be a conscious attempt to understand the workings and roles of people, places, actions and networks over time and space (Wissink, 2013). To be clear, the *Narrative of Loss* identifies effects similar to gentrification, and it places the "blame" for urban enclave emergence on the urban elites who have the backing of the government and their agencies. Their activities and influence usually result in urban circumstances whereby the poor are pushed away to the urban "leftover" or crowded spaces with fluctuating access to facilities and services. This process sustains the unbundling or splintering of the city's socio-physical fabric into "rich" and "poor".

Wissink explains that there had been some extreme patterns and outcomes in the arrangement of the urban settings of Mumbai. That is, urban enclaves were not unusual in the landscape of Mumbai, as prominent members of the community with political influence have a sustained interest in occupying the most prime parts of the city. It, in turn, triggers a desire for enclaving. The activities/influence of politicians, vote banks, the underworld, slums, housing estates, the Land Control Act, bribes, resilient citizens and landlords define the historical context of urban enclaves (Khilnani, 2004; Wissink, 2013). Analysing a very striking example

(the case of Tardeo Towers, which is a new urban enclave in Mumbai), Wissink established that this elite enclave stirred up controversies that revealed the interest, identities (and cravings), of

a) Objects (element): Tardeo Towers, Cumballa Hill and expert report; and
b) Institutions and Associations (people and forces): SRA (Slum Rehabilitation Authority), TRAC (Tardeo Rehab Action Committee) and CRRA (Carmichael Road Residents' Association).

The institutions and residents' associations merged in a coalition to defend their interests. It is on the case for or against the Tardeo Towers. Those who opposed the construction cited environmental concerns and doubted whether high-rise enclaves could be the future of Mumbai, while the proponents and their supporters saw Mumbai's Tardeo Tower enclave as beneficial to all parties concerned. From the Mumbai experience, Wissink thus demonstrates that the notion of *Narrative of Loss* does not accurately depict or capture perfectly the different cases where urban enclaves have emerged or are emerging across cities or metropolises of the world. That is, there should not be a predetermination of actors' roles (e.g. the elite as powerful and winner, and the slum dwellers as powerless and losers) but rather examine each case of enclave urbanism empirically to determine power relations.

The Cape Town (South Africa) apartheid-triggered experience of enclave urbanism

Scholarly research on the city of Cape Town in South Africa presents very interesting and educating viewpoints of the factors, forces and elements at play in the enclave urbanism experience. Analysing the experiential outcomes in South African cities, Schuermans (2016, p. 184) documents that cities in South Africa are "generally not understood in terms of interaction and negotiation, but in terms of segregation and separation. The apartheid state planned mono-racial residential zones so that the paths of whites, coloureds, Black Africans and Indians did not have to cross each other". The tactical avoidance of interracial relations aimed to carve out economic opportunities and political power and privileges. It also strengthens white identity through the socio-spatial delineation of Whites from Blacks. Today, the sharp socio-economic disparities are very pronounced in the urban landscape of South African cities: high-income residential zones are characterised by gated, secured communities and neighbourhoods with private security personnel provision, while the low-income residential projects are situated in the urban outskirts (Paasche, 2012).

However, it is not only the quest and interventions by the white and middle class to establish socio-economic, political and spatial dominance (Lemanski, 2007) that has strengthened the enclave urbanism phenomenon in Cape Town. Schuermans (2016) further establishes that there is also the issue of a high rate of crime which has fuelled the desire for homes with security appendages, protected neighbourhoods and secured office and shopping spaces. Lemanski (2007) establishes that the infrastructure and Central Business District (CBD) upgrade that took place in Cape Town only worsened the inequality (which had its foundation in the apartheid regime) in the city, as against the projected economic growth that was expected to reduce poverty and bridge the inequality gap. Thus, the author cautions that: "any city aiming for global status must recognise and accept the negative impact of this international economic status on its domestic social status, particularly in cities of the South where, the Western construct of global competitiveness deepens existing polarisation and fragmentation" (Lemanski, 2007; p. 459). In his conclusion on the research on enclave urbanism in Cape Town, Schuermans (2016) suggests a need to embark on more intense, empirical and context-specific studies on experiences and encounters in the field of enclave urbanism.

The Chinese experience of enclave urbanism

Douglas, Wissink, and van Kempen (2012) provide an assessment of the Chinese experience of enclave urbanism. According to the authors, the Chinese urban landscape was always characterised by gates and walls. The earliest "enclave" attempt was fortifying Chinese towns and cities with walls. After the walls crumbled, surrounding residential zones retained their identities- although they had no walls, there were demarcations by living spaces and access paths. From the authors' accounts, Chinese neighbourhoods retained the use of walls and fences as means of demarcation and spatial delineation even after the 1949 Communist revolution (Douglas, Wissink and van Kempen, 2012).

When the private housing system was abolished, the primary housing system (Danwei) evolved into self-dependent residential communities and was supported by essential services such as schools, clinics, transport and other services. Soon, the Danwei was walled and explicitly gated for safety reasons (Lu, 2006). The population rise that followed the 1978 reforms (which gave the state more powers to regulate housing and service provision) had a pronounced impact on the urban landscape of Chinese neighbourhoods and communities. Rural-urban migration, coupled with natural population growth, led to a staggering urban population growth that brought about the rapid expansion of cities and the evolution of

metropolitan areas. It resulted in the demarcation of cities from the countryside. With this, many urban enclaves have emerged across Chinese towns and cities in the form of gated communities, housing estates, urbanised villages, university towns, and special economic zones linked by new infrastructure systems (Douglas, Wissink and van Kempen, 2012). The authors submit that "... while the spread of gated communities in China has potentially far-reaching social consequences, at the same time this is not necessarily the case, since consequences can vary with local characteristics" (p. 176).

Lessons from specific contexts: similarities and incongruities

An assessment of the enclave urbanism phenomenon in three different geographical contexts reveals some similarities and interesting dissimilarities. In all the instances, the resultant disintegration of the urban fabric into spaces of socio-economic splinters has the elites' push. There is either a subtle or a conspicuous interest of the upper socio-economic class who seek security, privacy, and better service experience away from the surrounding neighbourhoods/communities. This research acknowledges that in the case of Mumbai and Cape Town, there is a neoliberal input that influenced planning policies, contributing to urban fragmentation that largely favours the urban elites. Policy support for the *privileged* or *elites* in the Chinese experience was silent until a rural-urban migration crisis was fuelled by 1978 reforms and the subsequent abolishment of private housing. Thus, the argument presented by the *Narrative of Loss* (Wissink, 2013) is valid, given that in the end, the "major" beneficiary of the enclave urbanism phenomenon is the urban elites. However, this narrative is not entirely applicable because the elite's influence was not at play *at the outset* in all the cases. Notwithstanding the counter-argument that such a move may be a necessary urban intervention and is in the interest of all parties (as seen in the case of Mumbai), the elites, by and large, are the primary beneficiaries of urban enclaving.

Conversely, the underlying factors, forces and or triggers are different in all three cases. In the case of Mumbai, the *bait* is urban renewal intervention that was initiated to upgrade existing neighbourhoods. In addition, there are prominent roles played by various institutions and associations that led to some benefits for the slum dwellers. For Cape Town, urban enclaves are outcomes of the apartheid era, resulting in a misalignment of the socio-spatial setting along with the income, race, and class lines. As a consequence, security became another defining factor for enclaving. In the Chinese scenario, the grounding trigger was city fortification. It was later retained for spatial delineation. Thus, Schuermans' (2016) submission on the need for in-

depth, empirical and context-specific studies on experiences and encounters in the field of enclave urbanism is valid and worthy of consideration in studying the outcomes of the phenomenon.

Conclusively, the lesson from this section is that the enclave urbanism phenomenon is a city planning and management attempt geared towards expansion and population accommodation - irrespective of the fact that it has become a modernist planning tool for establishing socio-economic placement and furthering inequality. In most cases, neoliberal policies' influence results in urban fragmentation along socio-economic lines. Although this outcome tends to favour the urban elites, urban enclaving is also essentially a result of factors, forces and elements at play within geographical contexts. Nevertheless, the fact that this city/urban expansion process usually leads to urban fragmentation along socio-economic lines raises sustainability issues within an urban environment context. It is, therefore, necessary to review the literature and theoretical postulations on sustainability and sustainable (urban) development as examined in the next section.

2.2 Sustainability (social) and sustainable (urban) development

This section reflects how urban growth management embodies environmental and economic considerations and infuses (social) sustainability components into its policies and approaches. Its applicability in the global South context is explored. Generally, social and urban research on sustainability outlines three dimensions of sustainability: economic growth, environmental conservation and social justice; but recognises that planning across cities has unique approaches that reflect different cultural, historical, environmental and political circumstances (Martens, 2006). Missimer (2015, p.8) defines sustainability as "not systematically overstepping the boundaries of the systems on which we depend". It clearly explains the need for conscious efforts toward conservation and preservation.

The history of sustainability as a concept can be traced to English political economist Thomas Malthus as a response to whether the earth's natural resources will be continuously available to support the escalating human population (Basiago, 1999). Basiago explains Malthus' fundamental tenets of environmentalism: the population tends to grow in a geometric progression while resources grow only in an arithmetic progression. It births thoughts on balancing the population growth rate (and resource utilisation and allocation) within the environmental conservation framework (Basiago, 1999). In this regard, population growth

tends to manifest local specifics that may not be understood across the board. For instance, Angotti writes:

> The majority of urban dwellers today live in Africa, Asia, and Latin America, in metropolitan regions that are not well understood in the "developed" world, where most of the theories about urbanisation and the practices of urban planning come from. These theories and practices are based on giant myths describing the "underdeveloped" metropolis as a giant, homogenous landscape of chaotic, unsanitary, and dangerous "slums". (Angotti, 2013; p. 4)

Notably, Sustainable Development (SD) as a concept first appeared in the World Conservation Strategy document drafted by the United Nations Environment Programme (UNEP) and the International Union for the Conservation of Nature (IUCN) in 1980. It became a global theme in 1987 when the United Nations Commission on Environment and Development (also referred to as the Brundtland Commission) published its report. The report explains that development is sustainable when it ensures that the needs of the present are met without compromising the ability of future generations to meet their own needs.

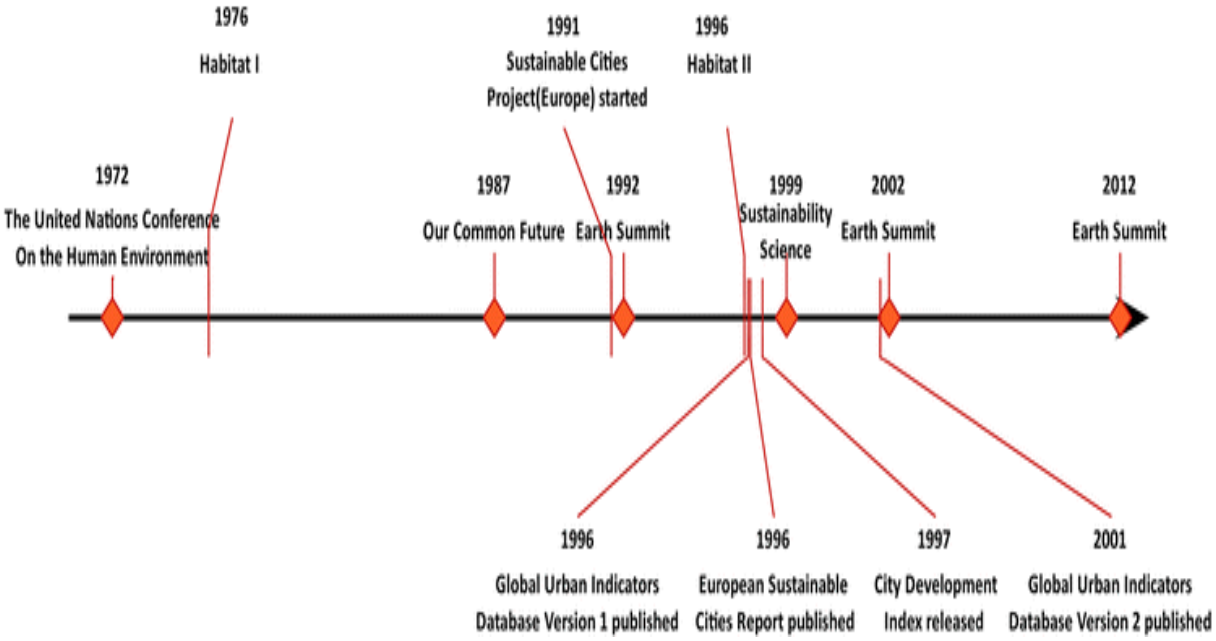

Figure 2.1: Timeline of some key events in the history of sustainable development. (Source: Huang et al., 2015)

Thus, Missimer et al. (2017) note that global concerns about the environment led to the formulation and adoption of the Millennium Development Goals in 2000; and the Sustainable Development Goals in 2015. The authors further opined that in three decades between the conception of the SD idea to the emergence of the SDGs, the debate on sustainability as a critical anchor of development has grown steadily. The timeline of events from the conception

of the UN conference on the human environment to the evolution of the sustainable development concept and the earth summits is captured in figure 2.1 above.

This part is further divided into two sub-sections. The first sub-section examines the social dimension of sustainability. Here, the emphasis is on (social) equity, which advocates for inclusion, social cohesion and a high-quality environment for all. The second sub-section considers urban sustainability as an emerging and emphatic ideal of physical planning. The goal is to explain the expediency of incorporating the three dimensions of sustainability into physical plans and development policies. The argument here is that there are sustainable elements that urban development inputs and outcomes should guarantee. It is linked to this study because enclave urbanism fragments urban land, causing a socio-spatial division between the urban rich and the poor. It, in turn, threatens the sustainability of the urban fabric as a whole.

2.2.1 Social dimension of sustainability

A review of the social dimension of sustainability is necessary for this study as it seeks to examine social justice concerns of infrastructure integration. However, while there is a broad acceptance of the social dimension of sustainability, the exact meaning of the concept has not been clearly defined. There is an overlap between social sustainability and related concepts such as sustainable community- underpinned by social equity and justice (Dempsey et al., 2009). In principle, the indices of social sustainability in a community / an urban centre are social justice and equity, economic opportunities for all, and income equality. Dempsey et al. (2009, p. 291) document that “since the 1980s, the urban policy focus has been on community empowerment, local action and governance... alongside the ongoing incorporation into a policy of inter-related concepts including social sustainability, sustainable communities, quality of life, social cohesion and, more recently, liveability and well-being”. Here, it can be deduced that urban policies and actions could be tailored to guarantee socially sustainable communities and cities. Contrariwise, discussions in section 2.1 show that one urban intervention outcome that tends to thwart urban sustainability is enclave urbanism. In SSA, they are pointers of social preference and class segregation.

From a broader perspective, it can be observed that physical planning approaches or measures are usually employed to achieve the social objective(s) desired in cities of the global North. For instance, a community playground or park is used to promote social cohesion and improve the sense of living among residents. In addition, non-physical factors (such as justice, quality of life, and social inclusion among others in table 2.1 below) could also be used to attain

social sustainability. In the case of SSA, the emphasis of its scholars is on making cities and urban centres socially sustainable by ensuring that development plans, approaches, measures and policies reflect local planning characteristics while also taking into consideration socioeconomic distributions. Nonetheless, some factors are valid and acceptable across the board, irrespective of local or geographical characteristics or peculiarities.

Table 2.1: Urban social sustainability factors. (Source: Dempsey et al., 2009; p.291)

Physical factors	**Non-physical factors**
▪ Urbanity ▪ Attractive public realm ▪ Decent housing ▪ Local environment quality and amenity ▪ Accessibility (e.g. to local services and facilities) ▪ Sustainable urban design ▪ Neighbourhood ▪ Walkable neighbourhood: pedestrian-friendly	▪ Education and training ▪ Social justice: inter- and intra-generational ▪ Participation and local democracy ▪ Health, quality of life and well-being ▪ Social inclusion (and eradication of social exclusion) ▪ Social capital ▪ Community ▪ Safety ▪ Mixed tenure ▪ Fair distribution of income ▪ Social order ▪ Social cohesion ▪ Community cohesion (i.e. cohesion between and among different groups) ▪ Social networks ▪ Social interaction ▪ Sense of community and belonging ▪ Employment ▪ Residential stability ▪ Active community organisations ▪ Cultural traditions

Dempsey et al. (2009) review different works of literature to establish common contributory factors to urban social sustainability across the North. These factors are examined

to establish general social sustainability indices but not to translate a global North ideal into a global south context. They are classified into predominantly physical and non-physical factors. From the list (see table 2.1 above), it can be observed that urban social sustainability depends mainly on non-physical factors as a basis for assessment. Notwithstanding, there is no uniformity of acceptance of all the above factors by authors and scholars**.** However, in theory and policy, it is widely acknowledged that concepts such as inclusion, social cohesion and social capital, and a high-quality environment for living are positive and desirable social goods that communities seek, and planners, alongside policymakers, work towards (Dempsey, 2006). Although a positive social atmosphere, social order and organised physical activities may be experienced in a high-quality physical environment, it is also true that social sustainability is neither absolute nor constant, as key factor(s) of consideration may change over time and space. In fact, a healthy environment and good quality of life are the desires of all people (Wilkinson and Marmot, 2003).

More precisely, a factor of the social dimension of sustainability usually emphasised in theory and practice is social equity, which has its roots in social justice; and is concerned with fairness in the distribution of resources and incomes. In the central focus of this study (enclave urbanism in Lagos), a significant trend is how income and access to resources are becoming major determinants for urban socio-spatial "placement". This *placement* defines accessibility, which has been said in theory and practice to contribute to a firm, just and fair social setting needed for present and future sustainability purposes (Burton, 2000). Social equity ensures no restrictions or discrimination to individuals' access to physical, social or economic goods and services (Kay, 2005). Contrariwise, the emergence of (premium) enclave spaces, especially in developing regions of the world, threatens social equity. It is manifested in the form of lopsided elitist urban development outcomes that subtly relegates the presence of people in the lower socio-economic cadre to the background. Whether such developmental outcomes are the fault of city administrators/governments who have failed to regulate urban development or are a necessary urban development manifestation remains empirically unascertained. This study, however, will address such concerns in subsequent empirical chapters.

So far, there is not ample emphasis and assertions from studies on varying socio-physical and geographical peculiarities across cities of the global South. Notwithstanding, this study shall examine cogent issues (which are not territorially pronounced and geographically restrictive) in the sustainability and sustainable development debate. Key issues are ***geographical accessibility, social equity and justice-*** which emphasise inclusion for all groups

of residents and thus allow for ***social cohesion*** (Atkinson, 2000; Burton, 2000; Wilkinson and Marmot, 2003; Dempsey, 2006)**.** It is necessitated by the reality that, across cities of SSA, urban enclaves are becoming consolidated entities amidst fast-spreading socio-spatial disintegration that manifests along socio-economic lines. There is a need to expand knowledge and research to better understand social sustainability in an urban context characterised by a high degree of fragmentation. It is to conceptualise urban sustainability and what it entails and establish a theoretical understanding of social elements that define sustainability in an urban setting. Thus, the following sub-section attempts to clarify issues of urban sustainability.

2.2.2 Urban Sustainability

This sub-section provides an assessment of *what* and *how* factors in the realm of sustainability affect and define an urban setting. When viewed from a broader perspective in all indicative outcomes, inputs of economic growth, environmental preservation, and social justice and equity should metamorphose into urban sustainability for a defined setting. It is necessary because planning practices entwined around urban sustainability have been proposed as antidotes to negative trends experienced across major urban centres (especially in the developing regions) of the world (United Nations, 2014). Interestingly, a significant grouse about urban enclaves (especially in SSA) is that their emergence may not guarantee the sustainability of their host city/urban centre.

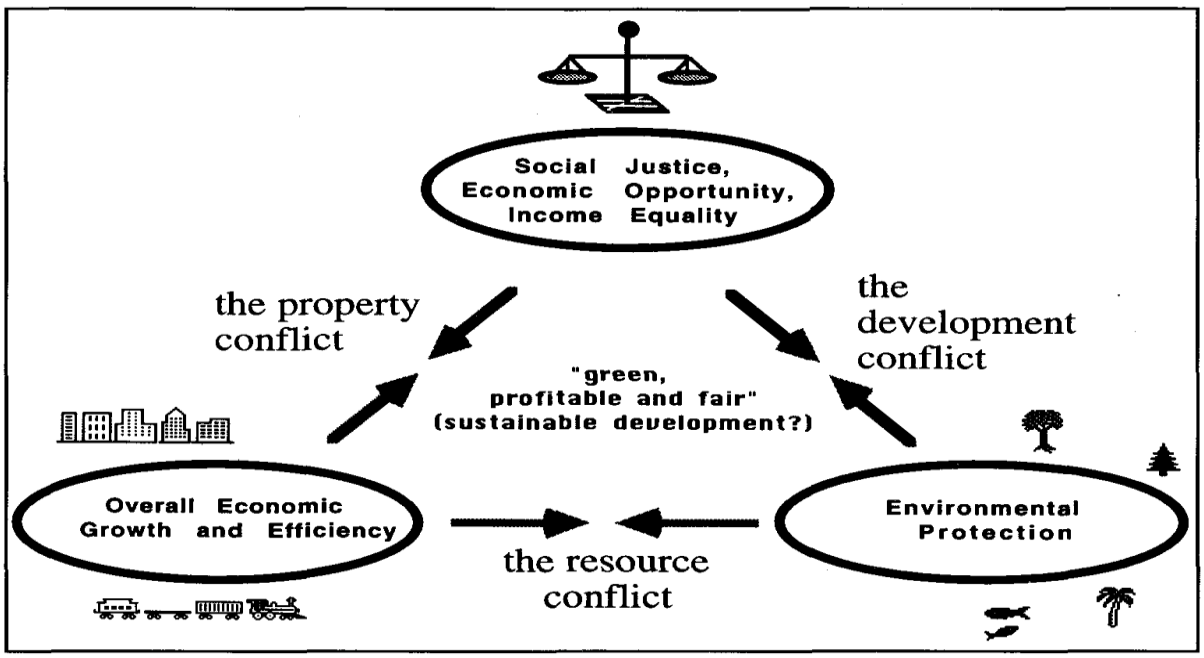

Figure 2.2: The triangle of the sustainable development dimensions for Planning (Source: Campbell, 2007).

Studies have shown that planners and policymakers face a tough decision in incorporating the three dimensions of sustainability into physical development plans and

policies. There is a struggle to take a balanced stand in promoting the economic growth of cities, protecting green areas and ensuring social justice (Campbell, 2007). Notwithstanding, figure 2.2 (above) projects that planners must reconcile the three areas: grow the economy, protect the natural environment and distribute growth fairly. In this regard, an assessment of the case of premium enclaves concerning highlighted components of sustainability shows that they not only tend to create resource conflict (through the acquisition of land, which is sometimes at exorbitant prices in the interest of enclaving), but they also result in development conflict (as they are usually independently planned and with no plans for integration). In turn, they create social issues (equity and justice, economic sabotage, and worsening income disparities) that affect their host urban environment.

By and large, there is a continuous clamour for the sustainability of urban socio-spatial fabric across developing cities of the world owing to declining access to basic infrastructure and services fuelled by a predominance of low-income populace and governments' dwindling resources to meet up infrastructure demands (United Nations, 2018). Campbell (2013) writes:

> This differentiation is central to the social justice engagement with sustainability, whether framed as a formal class analysis, as interest group politics, as race and gender categories, or as spatial divisions (this last approach is of particular relevance to urban planning). This disparity happens on at least two levels: between the rich and poor within metropolitan areas (once between the pauperized rural area and the rich city, now more typically between the urban poor and suburban middle-class), and across rich versus poor nations. (Campbell, 2013; p. 84)

Analysing urban sustainability from the global South perspective, Pieterse (2011) notes that global South cities must evolve into the deliberate discourse of considerations for urban sustainability given that much of the world's urbanisation in the next three decades is projected to happen within their spatial context. Thus, there is a need for a robust urban development approach that captures sustainable infrastructure, economy and efficient spatial form (Pieterse, 2011). However, some of these cities in the global South adopt templates from cities in the global North, focusing more on innovations and economic vitality (Wachsmuth et al., 2016). These templates are not usually ideal for their contexts in terms of equity, environmental justice and the management of their sociophysical complexities backed by sound urban policies.

The foregoing presents a case for urban sustainability and also shows some of the problems that arise when planning for sustainability. Thus, considerations for urban sustainability are imperative when development plans and proposals are formulated – especially

in developing regions of the world. It is relevant for this study because the sustained growth in urban population over the past few decades has raised concerns about threats to cities' forms and structures, pronounced in social conflict, pressure on essential services and environmental degradation. One such *threat* is the enclave urbanism phenomenon and its consequential outcomes. Hypothetically, its outcomes across the Lagos metropolis fit into the highlighted concerns.

Conclusively, one important socio-physical element of an urban system is infrastructure. Its provision and integration help sustain the form and functionalities of urban centres. Thus, the following section examines the concept of infrastructure- its criticality, ideals and emerging (contemporary) issues. It is necessary as infrastructure provision and integration is a sine qua non to urban form and functionality sustainability over time and space.

2.3 The Infrastructure Concept: criticality, planning and sustainability

> "Fundamentally, infrastructure networks are thus widely assumed to be integrators of urban spaces. They are believed to bind cities, regions and nations into functioning geographical or political wholes. Traditionally, they have been seen to be systems that require public regulation so that they somehow *add cohesion* to territory, often in the name of some public interest". (Graham and Marvin, 2001; p.8)

The above quote introduces this chapter to the realm of infrastructure. The goal is to examine the infrastructure criticality and how it plays out in the enclave urbanism debate. Infrastructures (such as transport, energy, water supply and usage, telecommunication, etc.) tend to unite or create divisive forces among communities; provide solutions to and create socio-economic and spatial disadvantages and inequality (Steely and Legacy, 2017). These tendencies of cohesion or disruption have made the provision, management, and sustenance of infrastructure and their networks to define how cities are perceived and rated and how governments gain public acceptance or otherwise (Steele and Legacy, 2017). Consequently, events in recent years have shown how governments across the world are exploring different options for infrastructure provision – ranging from outright *privatisation* to the adoption of *Public-Private Partnership (PPP)* arrangements (Carmona, 2010). The latter requires "a strong coordinated and integrated effort of the public and private sectors, given the complexity of the involved processes" (Carmona, 2010; p. 110). On its fundamental ideals, O'Neill (2010) highlights four principles

of infrastructure ideal: *Universality* (infrastructure should be available in all circumstances and to everyone at the same universal cost); *Bundling* (the delivery of infrastructure entities in channels that guarantee complementary public delivery); *Access* (citizens' rights to access essential services and infrastructure); and *Positive externality* (derived and enjoyed "benefits to users" across the wider community).

To emphasise their roles in the making and running of towns and cities, modern city experts and present-day scholars have established some criteria for determining what qualifies an infrastructure as "critical". For example, Moteff et al. (2003; p.2) highlight that infrastructure is *critical* when "their incapacity or destruction would have a debilitating impact on the defence or economic security...". The "infrastructure" listed under these criteria are telecommunications; electric power systems; gas and oil storage and transportation; banking and finance; transportation; water supply systems; emergency services (including medical, police, fire and rescue), and continuity of government. Lukitsch et al. (2018; p.12) define critical infrastructure as "infrastructure which is needed to keep running other major technical and/or social systems or which is needed to provide goods or services that are considered vital to the functioning of modern society". Further, critical infrastructure is defined as capital-intensive systems that are usually built as public investment and sustain the functionality of cities. Their breakdown affects people, systems and networks, usually causing substantial economic and social distress (Brown et al., 2006).

The above notions of infrastructure criticality have implications for this study. From the above discussions, one may deduce that what defines criticality and the underlying factors at play could be more or less context-specific. There are no generally accepted standards or indicators for measuring criticality. Also, there are no global benchmarks for governments and city managers to adopt in terms of infrastructure dealings. Hypothetically, while it could be agreed that in all cases, "critical" infrastructures are characterised by massive capital investment and a constant assessment of their vulnerabilities and resilience (Rinaldi et al., 2001), one can infer that the less investment and security priorities given to an infrastructure, the less critical it is. Therefore, examining the infrastructure policies, actors, drives and investment outcomes in urban enclaves (and perhaps, concerning their general urban spaces) will help understand what defines criticality. It is in terms of the government's investment priorities and the people's perception of and attitude toward infrastructure and service provision within their urban context.

Furthermore, infrastructure debates are now focusing on resilient frameworks in the wake of challenges such as climate change, flooding, earthquakes, etc. (Reiner and McElvaney,

2017). However, while ***resilience*** speaks about the capacity of infrastructure networks to "bounce back" after exposure that has caused disruptions (Reiner and McElvaney, 2017), ***criticality*** emphasises the significance, priority of investment, and securitisation to define city functions and systems (Moteff et al., 2003; Lukitsch et al., 2018). The latter is the focus of this study.

This section is hereafter divided into two sub-sections. The first sub-section examines infrastructure (planning) concerning development and sustainability. The last examines sustainable infrastructure planning, identifying approaches, challenges and sustainable approaches towards infrastructure integration. Here, the focus is on transport infrastructure because it requires connectivity and integration with various parts of the urban centre/city, compared to the other two infrastructures assessed in the case study enclaved spaces (details in chapter three).

2.3.1 Infrastructure (planning), development and sustainability

This sub-section considers how the concept of infrastructure fits into the discourse on development and sustainability. Basically, the functionality of any emerging or existing city is, among other factors, dependent on the efficiency and sustainability of the infrastructure put in place. Infrastructure serves as a driver of the city's economic system (Li et al., 2018). In an urban environment, it is emphasised that planning for infrastructure should encompass sustainability, and its implementation outcomes should guarantee strategic policy goals, such as integration and efficiency (Bigotte and Antunes, 2007). Lopez and Monzón (2010) posit that contemporary challenges in infrastructure planning should not be separated from the sustainable development concept. The authors state further that it is on this premise that current issues such as transport sustainability have emerged (Lopez and Monzón, 2010). Hence, sustainability must also be incorporated into infrastructure planning, among other priorities and considerations. When assessed or evaluated, the production and operational outcomes should reflect elements or attributes of economic growth, social justice and environmental preservation (Feitelson, 2002).

Social justice (equity) in infrastructure planning emphasises providing an integrated infrastructure system that guarantees access to all groups. Dempsey et al. (2009) opine that lack of access or reduced access to a range of public services and facilities manifests social exclusion and inequity. Also, Levitas et al. explain the broad idea of social exclusion as involving

> "the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of the people in a society, whether in economic, social, cultural or political arenas. It affects both the quality of life of individuals and the equity and cohesion of society as a whole". (Levitas et al. 2007; p.25)

Church et al. (2000) identify seven features of exclusion of a transport system: physical exclusion, geographical exclusion, exclusion from facilities (such as playgrounds/recreational centres, sporting arenas, etc. because of commercialisation or restricted access), economic exclusion, time-based exclusion, fear-based exclusion (which may be triggered by cost implications or security restrictions) and space exclusion (such as walling or fencing off facilities or amenities; development of premium living spaces). Drawing his argument from Walzer's (1983) theory of justice, Martens (2006) opines that infrastructure could be provided using the distributive approach, which guarantees equal access. The author clarifies that a distributive approach is used when a good or service has distinct social value and meaning- such as having an elementary school in every neighbourhood of a town.

Furthermore, Kyttä et al. (2015), drawing their review from Bramley et al. (2009; 2010) and Dempsey et al. (2009), explain that two possible reflective attributes of social sustainability that affirm positive urban growth are *accessibility* and *experiential outcomes*. Accessibility is defined as the quality of access to basic services and existing social opportunities essential to societal living (e.g. health centres, schools, shops, open spaces and recreational spots). At the same time, experiential outcomes are tied to urban form and the experience it offers its dwellers, measured in terms such as sense of belonging to the neighbourhood, level or possibility of social interaction, the experience of feelings of safety and security, perceived quality of the environment, quality of life and living in the home, opportunity for the exercise of civic rights, etc. These two attributes, of course, relate to an expected outcome of infrastructure provision and integration. From the above assessment, infrastructure accessibility could be clarified to mean the ease and continuity of access to quality infrastructure services. On the other hand, infrastructure experiential outcomes are experiences of satisfaction or otherwise that the infrastructure offers to users relative to their urban sociophysical parameters (as listed above).

Essentially, infrastructure planning should reflect economic growth, social justice and environmental protection (Feitelson, 2002). This assessment of social equity issues in transport (like other aspects of planning) has not gained enough research attention (Di Ciommo and Shiftan, 2017). Pflieger and Rozenblat (2010, p. 2724) note that "cities are linked by a considerable diversity of networks, which differ in type, scale and structure, but all interconnect

in urban space". Thus, the integration or otherwise of different enclave spaces and the long-existing metropolitan component [such as major transport networks (road connections), city water supply network, markets, malls and other commercial spaces] will, in turn, affect mobility and (inter)connectivity. The eventual dissociation and fragmentation (of city components) are detrimental to the isolated units and the city system. If not managed efficiently, the different components that interact to sustain cities could eventually become bridging entities (i.e. agents or elements of disintegration). In the case of urban residential enclaves, physical infrastructure such as road networks or secured entry and exit points could bridge such enclaves from the rest of the city. By emphasising integration, this research aims to make a case for the prospects and realities of infrastructure provision and integration that beset city dwellers, planners and administrators; and professes physical and social cohesion in light of the social sustainability debate.

In addition, Di Ciommo and Shiftan (2017) opine that the assessment of equity issues in transport (defined as distributing the benefits and costs across members of a society) and other aspects of planning have not gained enough ground among planners and policymakers. There is thus a need to create a better understanding of what it entails: accessibility, mobility and health effects. In addressing the issue of equity in infrastructure planning, Di Ciommo and Shiftan recognise three key components: (1) The benefits and costs that are being distributed; (2) the population groups over which benefits and costs are distributed; and (3) the distributive principle that determines whether a particular distribution is "morally proper" and "socially acceptable" (Di Ciommo and Shiftan, 2017, p. 140).

From the above discussion, it is established that there is a rising concern among scholars and stakeholders on how planning for infrastructure in an urban environment could also, alongside other aspects of sustainability, guarantee social sustainability. Here, the focus is on inclusion as a critical element of social justice. In the case of the EAC, the underlying philosophy propelling investment in its independent infrastructure system is to create a business and residential hub that will, in the end, attract a lot of financial gains (see project description video on www.ekoatlantic.com). However, there is less emphasis on (social and physical) sustainability- which ensures functionality and strengthening of social institutions. Thus, the emergence of urban enclaves, especially in cities of SSA, has necessitated the need for this debate to be consistently echoed. In most cases, the emergence of enclaves makes the differences (in terms of the provision of social amenities in urban areas) more visible and people, in turn, become more concerned about such inequalities and exclusion. The empirical chapters will explore these issues in detail, precisely analysing how issues of exclusion,

accessibility and right to development play out concerning infrastructure provision and management across Lagos urban enclaves and the emerging EAC.

Since the debate is on how infrastructure development in urban centres can be sustainable and inclusive, it is expedient to examine the approaches and challenges of sustainable infrastructure planning and approaches towards integration. The focus, as earlier mentioned, is on transportation planning. It is because of its role in connecting people and the city and the need for integration. The next sub-section examines critical issues in sustainable transport planning.

2.3.2 Sustainable transport planning: Perspectives and issues of integration

There is a need for more effective approaches to infrastructure planning in large urban centres. It is especially true given that as the population increases, urban spaces become more congested, and options for the use of available land become limited (Li et al., 2018). In particular, there is a strong case for efficient transport infrastructure integration in megacities, which are described as very important and playing a pivotal role in urbanisation. In some megacities, infrastructure development and improvement do not match population growth, thereby necessitating more research in infrastructure transformation, governance and management (Kraas et al., 2014). According to May et al. (2006), the origin of the growing interest in developing integrated urban infrastructure could be traced to a deepening realisation that a "predict and provide" approach may not likely solve growing urban problems. It has birthed a renewed interest in the role of land use planning as a frontrunner to transport policy. Hence, effective land-use planning can be a *sine qua non* to efficient transport integration.

Also, in planning for transport integration, the level of outcome (or ease) of accessibility has to be carefully considered. It defines the success of transport networks and enables the evaluation of interactions between land use, transportation, and social needs (Proffitt et al., 2017). The authors further opine that the combination of land use and transportation as single assessment criteria would narrow down the focus of accessibility on system performance rather than just segments of the transport networks. Accessibility in urban centres can be achieved by enhancing mobility which has been said to have both spatial and temporal dimensions and exist in different forms or patterns of placement at the local and global levels (Esson et al., 2016). It should be one of the key objectives of transport integration planning.

In addition, there is a need to ensure that proposed or adopted infrastructure integration approaches promote positive urban growth management. In this line of thought, Zhao (2010)

illustrates the fact that land-use patterns (regulated by zoning plans) can be very useful in creating balance and socioeconomic harmony (integration) across residential locations (see figure 2.3 below). From his illustration, forms of land development (land use) play a role in harmonising urban growth management with transportation. This way, transportation meets the demands across residential locations along socio-economic lines. It, in turn, guarantees urban balance. Conversely, the lack of or non-implementation of a land-use plan often creates difficulty in harmonising infrastructure and achieving proper integration across an urban centre's different areas or zones.

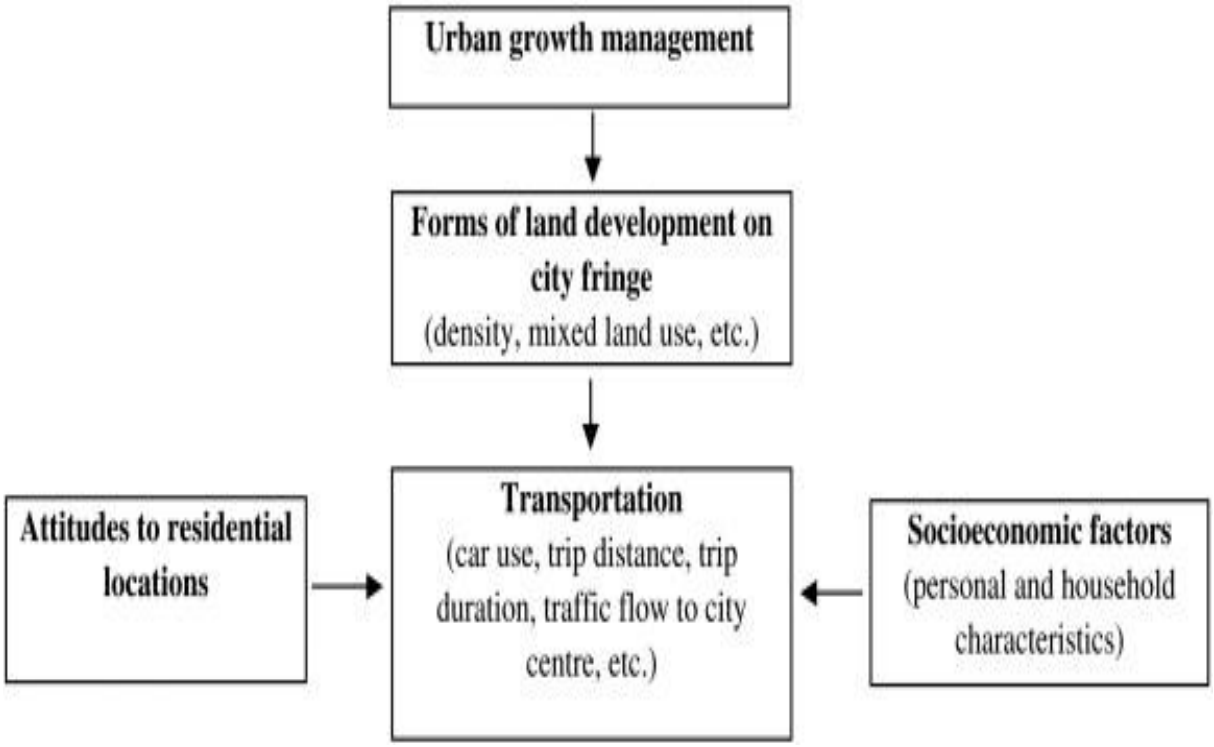

Figure 2.3: The relationship between urban growth management, forms of land development and transportation (Source: Zhao, 2010).

Within the SSA context, there are observed inconsistencies and dysfunctionalities in some of its fastest-growing cities because land-use planning is usually not properly implemented to a significant extent. There are sociospatial consequences for such inadequacies. For instance, in an urban context like Lagos, it is somewhat unrealistic to integrate emerging developments with existing ones in a bid to achieve infrastructure harmonisation, resulting in a scenario where planning chases development instead of the other way around (see Olajide, 2018). Consequently, the need to (re)consider existing infrastructure paradigms, especially within the context of developing cities, is imperative. It is, among other considerations, given the fact that

networking and integration of infrastructure systems require frameworks and approaches that are in tune with prevailing spatial manifestations and available resources.

Notably, there is a shift in the development and management of the infrastructure paradigm from networked systems (that was encapsulated in a modern infrastructural ideal depicting monopolistic, integrated and standardised network provision until the 1960s) - to the urban infrastructure crisis era that was characterised by urban competition. This era of competition and crisis resulted in a change in the political economy of urban infrastructure, neoliberalism and state withdrawal from direct infrastructure funding, and ultimately, the breakdown of a comprehensive approach to urban planning (from the late 1960s). Coutard (2008), while discussing the main ideas of splintering urbanism, acknowledges that the economic liberalisation of infrastructure provision has birthed the *bypass* effect, i.e. the subtle approach of prioritising valued or influential users and places while neglecting less-valued or less powerful users or places. This bypass strategy has, in turn, ushered in the emergence of "premium networked spaces" and vice versa (Graham and Marvin, 2001).

Conclusively, the foregoing is relevant to this study in that the emergence of premium developments in urban centres has been shaping the development, provision and integration of urban infrastructure. It has widened the gap among socioeconomic groups (Zérah, 2007). Graham and Marvin (2001) noted that the quest of cities and urban centres to attain global city status results in a fragmented infrastructure provision mechanism (that lacks ideal integration policies). Lagos, like other big cities of SSA, demonstrates the outcome above. Here, the fragmentation is unregulated as premium spaces are usually not captured by an existing land use/zoning plan. Hence, they are often not integrated into the central city system. In this regard, there is a gap of knowledge investigating how, within the enclave urbanism context, infrastructure is/can be sustainably planned, implemented and integrated. Here, there is a focus on the role of a land-use plan. Thus, the link between land use planning and infrastructure planning would be established by evaluating the integration gaps and issues posed by premium enclaves. The outcome of investigating this knowledge gap is an essential consideration for this study because the continuous rise in the urban population (of Lagos) requires policy-driven infrastructure provision and integration approaches.

The next section examines how key issues so far considered in this chapter (enclave urbanism, urban social sustainability, and infrastructure provision and integration in the context of urban sustainability) connect and are analysed to generate a framework approach for a context-specific study. The goal is to adopt a knowledge-based assessment of the enclave urbanism phenomenon alongside its infrastructure provision and integration issues that project

urban sustainability issues in the Lagos urban setting. It is done by adopting a definition for social sustainability and assessing the urban elements that make the consolidation of urban enclaves a threat to urban sustainability or otherwise, as will be explored.

2.4 Conceptualisation

2.4.1 What gets out of view? Developing a framework for an African urban paradigm

So far, contributions from the literature have not examined the construction and management (both discursively and materially) of premium infrastructure spaces in-depth but resorted to ascribing them the similitude of cities of the global West (Lemanski, 2007; Douglas et al., 2012; Bahn, 2013; Cain, 2014; Iossifova, 2014; Watson, 2014; Schuermans, 2016). This section, therefore, provides an analytic conceptualisation of the effects and outcomes of people, forces and activities to explain outcomes (such as sustained enclave proliferation, private infrastructure funding, issues of equity and accessibility, and urban sustainability realities) in the urban system through a context-specific approach (Schuermans, 2016).

The ultimate goal of this study is to create an understanding of the enclave urbanism phenomenon with respect to infrastructure provision and its integration with the more extensive city network. It is to establish the realities of their (co)development and implications on urban management approaches by analysing how private provision defines the criticality of infrastructure and how they connect or relate with other major or technical systems vital to the functioning of cities /urban centres. So, this context-specific study of infrastructure provision and management relations in urban enclaves is necessary since there is no known method to accurately predict the consequences of infrastructure breakdown or dysfunctionality. Also, it is based on four critical elements of social sustainability (accessibility, equity, inclusion and cohesion) that a case for or against the sustainability of the urban centre can be assessed and established. Hence, the study will contribute to the debate on critical infrastructure provision and management by examining the outcomes of enclave urbanism in the light of the city as a system: whether residential enclaves function as systems of their own or they function as sub-systems of the primary city system, alongside (social) sustainability issues that define either case.

2.4.2 Conceptual Framework

As Dempsey (2006) emphasised, city development and expansion projects should guarantee desired social goods such as inclusion, social cohesion and social capital, and high-quality living space to ensure sustainability. One of the urban planning approaches that create a platform for social cohesion and communities' inter-relations is infrastructure provision and integration- which, when properly planned and implemented, ensures balanced social as well as environmental and economic settings. Drawing from the viewpoints and assertions of the authors above, this study defines social sustainability as *ensuring that development decisions and actions promote social inclusion by providing equality of opportunity and place accessibility for all classes of people*; *while ensuring safety and security in their environs.* Although Dempsey and other authors define and identify social sustainability and its factors from a global North context, it is an underlying fact that the elements of social sustainability (such as equity, right to development, safety and security, social interaction, community stability, etc.) are entrenched in the people and are valid for all geographical settings. Notwithstanding the global South context of this study, the argument is that all groups of people in a community/urban centre should have a right to living; the ability to interact with their environment and should not be sidelined in the experiences of opportunities in their settings, irrespective of socio-economic status. However, different contexts might require different forms of planning interventions.

In essence, the focus on Lagos' enclave developments in this study is based on concerns for urban sustainability (especially the social dimension of sustainability). Notably, there is the argument that city expansion or outright city development should not neglect local planning characteristics and philosophy (Bhan, 2013; Watson, 2014). Commenting on the relationship between social sustainability and urban physical setting, Dempsey et al. (2009) posited that social sustainability is a socio-spatial construct. It means that social activities, connections and relations have evolved and cannot be separated from the physical space. This submission resonates with Schuermans' (2016) that it is pertinent to embark on more intense, empirical and context-related studies that will explain encounters and experiences over a period to advance the knowledge and understanding of the enclave urbanism phenomenon.

In conceptualising a framework for this study, this *context-specific approach* reflects and adopts knowledge established from the lens of geographical characteristics and urban peculiarities of a Sub-Sahara African city. It propels the argument that the idea of transferring and adopting Western ideas and ideals into African planning and urban management approaches can no longer be a practical and effective blueprint to *assess* urbanisation across the globe.

However, adopting a definition for social sustainability earlier in this section (from Dempsey's study) is necessitated by the generality of the component elements that define the term. That is (in this instance), the African planning and urban management approaches also seek inclusion, a sense of place, accessibility, community stability, social interaction and networking for all groups of residents, irrespective of socio-economic status. Besides, one of the criticisms of the enclave urbanism phenomenon in SSA is that it *leaves out* the urban poor majority in terms of access to urban infrastructure and services. Cities in Sub-Saharan Africa indeed have fast-growing and comparatively large urban populations with more complexly mixed socio-economic characteristics than those of the global West.

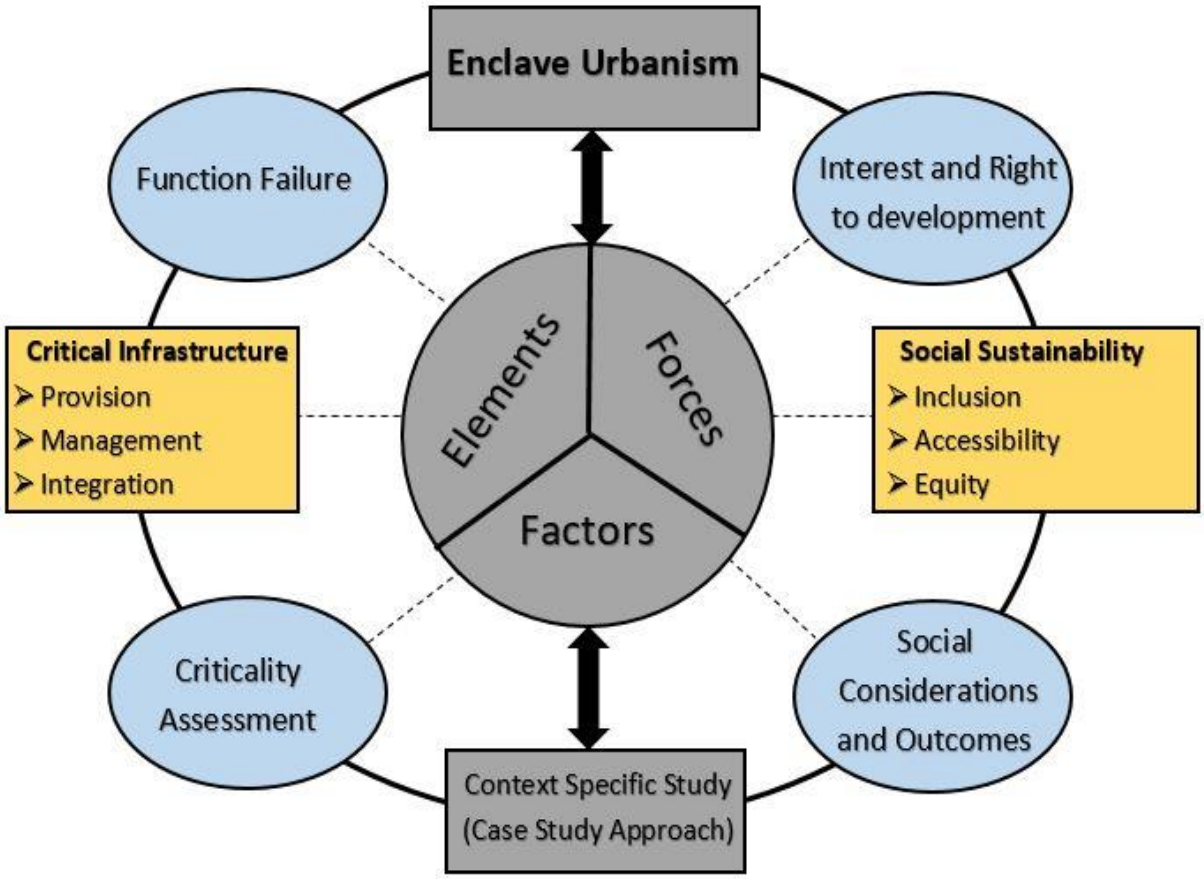

Figure 2.4: The conceptual framework.

Notwithstanding the tendencies of western ideals in the literature on infrastructure, the take is that planning for infrastructure could help to guarantee accessibility and cohesion. The primary approach here is to evaluate the role and importance of land-use plans in urban development and function integration and harmonisation. Thus, the conceptual framework (figure 2.4 above) for this study is premised on the adoption of a study of the experiences and outcomes of the functionality and failures of (critical) infrastructure in existing urban enclaves of Lagos and

then makes a case for the prospects and realities of infrastructure provision and integration in the emerging Eko Atlantic City.

The conceptual framework (figure 2.5) identifies the factorial links between researched elements. Here, three levels of evaluation are represented in three colours (grey, yellow, and light blue). The grey element interactions depict the enclave urbanism phenomenon examined context-specifically using a case study approach from three observatory lenses: factors, forces and elements (as adapted from the literature on enclave urbanism). It forms the basis of the investigation for this study. In the second level of evaluation (grey and yellow), there is, in addition to the grey interaction, the focus on two elements of urban input and outcome: critical infrastructure (CI) and social sustainability (SS). Here, the level of provision, management and integration of CI is used to evaluate critical outcomes of SS (such as inclusion, accessibility and equity). In the last level of evaluation, key connecting issues between grey and yellow interactions are identified and evaluated (light blue). Function/failure assessment is carried out to evaluate the link between enclave urbanism and CI. Also, issues on interest and right to development are assessed between enclave urbanism and SS. In addition, social considerations and outcomes guide the context-specific evaluation of SS. Lastly, a criticality assessment is carried out to establish a context-specific evaluation of CI in the case study units. The approach to this framework is graphically represented in figure 2.5 (below) and is further explained.

Schuermans' (2016) call for a more empirical, context-specific study in enclave urbanism studies drives the adoption of the first step in the framework approach: to examine the actors and outcomes of infrastructure provision and management in existing residential enclaves of Lagos. The characterisation, provision, and management outcomes/experiences drawn from these enclaves will create knowledge of their functionality and failure through concise definition and establishment of the roles and impacts of people, factors, forces and elements in infrastructure provision, management and integration. The experiential outcomes will also provide a reference for assessing the realities of infrastructure provision in the emerging EAC and how it differs from existing enclave realities.

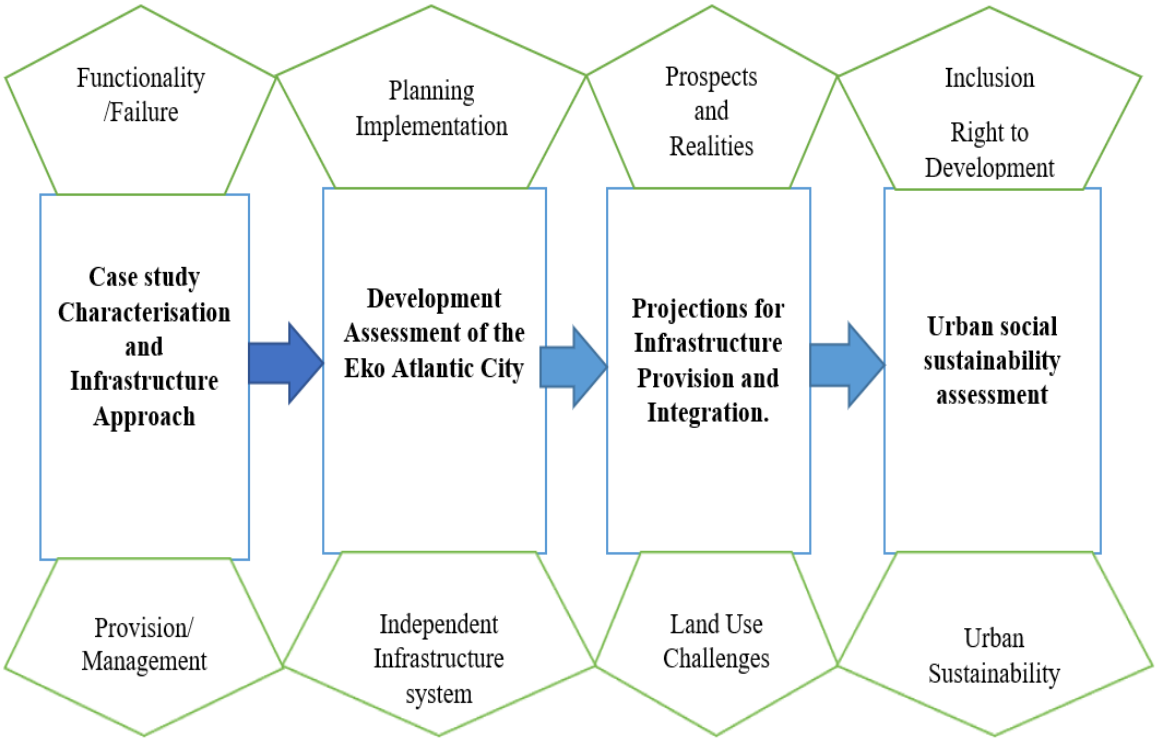

Figure 2.5: Stages of framework adaptation.

The framework continues with an understanding of the planning and implementation projections of the emerging EAC. As noted by Wissink (2013), urban scholars must attempt to look beyond certain narratives while studying the phenomenon of enclave urbanism. It translates that existing narratives or experiences of enclave urbanism in the study context may not capture, reflect or define the realities of emerging ones or in other contexts. For instance, while the EAC promises to further enhance the urban development narratives and realities of the whole of Lagos by magnifying the metropolis to global city status, the other enclaves are not connected to such expectations. Thus, the goal is to establish knowledge by understanding the processes, considerations and aspirations defining the planning and implementation of the EAC. This allows for exploring the development projections and the realities concerning infrastructure development and management. That is, the second step is to establish an understanding of the planning and implementation aspirations that birthed the EAC project and, at the same time, examine the justification for an independent infrastructure system in the emerging city.

Since scholars have argued about the intents and consequences of the enclave urbanism phenomenon across Sub-Saharan Africa partly due to the exclusion of the African planning philosophy and ideals (Bhan, 2013; Watson, 2014), knowledge of experiential outcomes is needed. Such knowledge would reflect local planning approaches and urban development

outcomes for assessing and making projections for infrastructure prospects and realities (functionality and failure) in emerging enclave spaces. In the third step of the framework, spatial/land-use issues that affect infrastructure provision, management and integration in assessed enclaves serve as a guide for planning and developmental assessments and decisions for new ones (Douglas, Wissink and van Kempen, 2012). The focus will project the prospects and realities of integration in the emerging enclave (EAC). The assessment will consider and evaluate the role of land-use plans in infrastructure integration assessment.

Conclusively, growing concerns among urban scholars and stakeholders across Sub-Saharan Africa about the counterproductive tendencies of enclave proliferation centre around socio-physical effects on the rest of the urban centre/town/city. Such tendencies are encompassed in (urban) social sustainability debates. They include socio-physical issues such as people's needs versus urban inequality realities, fragmentation of the urban landscape, accessibility and right to development, urban vulnerability in relation to infrastructure provision and management, and the role(s) of the social systems, among others. The final framework approach thus examines urban socio-spatial issues in sustainability across Lagos enclaves and the emerging EAC. The aim is to assess what social sustainability factors are the most pronounced and the options for ensuring urban sustainability given the present realities of the Lagos urban setting.

Chapter Three

Methodology

3.0 Introduction

The context-specific approach of this study prompts the adoption of a four-step procedure in line with set objectives (see below). These objectives translate to examining the enclave urbanism outcomes in a defined context through an exploratory approach based on narrated experiences and views of people and stakeholders (the government, city managers, residents of enclaves, infrastructure managers, urban planners, and other professionals in the built environment). In light of these, a qualitative methodology is adopted. Thus, the account of experiences and realities of the examined phenomenon in their specific context forms the *major* basis of empirical data for this study. The imperative for this methodological approach is evident in the structure of the research questions as presented below and explained in light of the objectives:

a. ***What lessons can be drawn from infrastructure provision and functionality assessment in existing residential enclaves of Lagos***? This research question explores the realities of infrastructure provision, functionality, and management in existing enclaves based on experiential outcomes through qualitative interviews. Also, the question of how the infrastructure in these enclaves is integrated/connected to urban Lagos is clarified.

b. ***How does the planning and implementation of the EAC concerning its urban aspirations differ from its development realities?*** The goal is to examine the planning and implementation initiatives of the EAC development. It is assessed in light of the project situated in the context of Lagos by exploring stakeholders' intents, interests, and perspectives. Also, the study seeks to analyze the development realities of an independent infrastructure system in the EAC through document analyses against development assessments from qualitative interviews.

c. ***What are the issues of concern in the emergence of the EAC to critical infrastructure provision and integration in Lagos?*** Given that the emergence of the EAC may further strengthen the consolidation of enclaves across Lagos' urban centre, what issues are of major concern to infrastructure provision and integration in Lagos? What is/are the case(s) for and against private infrastructure provision and management across premium urban enclaves in Lagos?

d. ***In which way does exclusive infrastructure provision as a manifestation of enclave urbanism relate to social sustainability (issues) in the Lagos urban context?*** Here, the emphasis is on how exclusive infrastructure in the EAC (as well as in other premium enclaves) raises issues of (urban) social sustainability, based on considerations such as inclusion, accessibility, experiential outcome, and right to development.

The qualitative methodological approach of this research utilizes a case study design. A case study design sets out to holistically analyze persons, events, processes, policies, institutions, or systems by one or more methods, thereby seeking to explain knowledge and or underlying principles (Astalin, 2013). In other words, the case study method is suitable for exploring, explaining, and describing events, outcomes, or phenomena, usually in a defined space or setting. Hence, its suitability for this study. Furthermore, this study situates within the KRITIS Research group along the "Function Failure of Critical Infrastructure" theme. This theme aims to explore and ascertain the functionality and/or failure of critical infrastructure, identifying how they function and their failure/inefficiencies in provision and integration. Ultimately, such an assessment will help establish what defines criticality in the Lagos context - which is characterized by strong social inequalities. In this regard, the researcher engages with functional realities (such as availability, accessibility and patterns or forms of interruptions) of socio-technical infrastructure across Lagos residential enclaves and ultimately points out what determines "criticality" and the prospects for integration. At the fore of the assessment for function failure and integration prospects is the emerging EAC.

3.1 Research Approach

This study adopts a qualitative research methodology, which is "characterized by its aims, which relates to understanding some aspect of social life, and its methods which (in general) generate words, rather than numbers, as data for analysis" (Bricki and Green, 2007; p. 2). Describing how qualitative research works, Astalin (2013. p.118) explains its effective approach using "a combination of observations, interviews, and document reviews, which makes possible the importance of looking at variables in the natural setting in which they are found". The study is based on an exploratory assessment of enclave urbanism in the Lagos urban setting concerning the provision, integration, and management of socio-technical infrastructure (transport, electricity, and sewage) and how it impacts the lives of people of different socioeconomic classes. Hence, the adoption of a qualitative methodology is suitable

for providing answers to the 'what', 'how', or 'why' questions of a phenomenon (Bricki and Green, 2007).

This study adopts a pragmatic paradigm as its underlying nature of knowledge. Basically, "pragmatism as a paradigm is based upon the premise of utilizing the best methods to investigate real-world problems, allowing for the use of multiple sources of data and knowledge to answer research questions" (Allemang et al., 2022; p. 39). In addition, "a key aspect in the pragmatic approach is that of values and a consideration of their role in conducting and subsequently drawing conclusions from data" (Clarke & Visser, 2018; p. 3). Thus, the lens of pragmatism utilized in this study helps to investigate and establish the *what* and *how* of knowledge about processes, outcomes, and implications of the enclave urbanism phenomenon concerning urban infrastructure provision and management through lived experiences of participants. That is, "the focus is on the consequences and meanings of an action or event in a social situation. This concern goes beyond any given methodology or any problem-solving activity" (Denzin, 2012; p. 81). In this case, the emphasis is on how enclaves are perceived and experienced. The nature of knowledge to be established is more about the ideas and perceptions of stakeholders concerning urban outcomes of infrastructure provision than about the actual setup on the ground. It is done within a proper context, thereby creating a deeper understanding of the research aim without undue generalization.

3.2 Study design and justifications

This study adopts four residential enclaves (located in different sections of the Lagos metropolis) and the emerging EAC as case studies. The four case study enclaves provide a basis for the assessment of experiential outcomes concerning infrastructure provision, management approach and funding. On the other hand, the EAC is assessed based on its new level enclave urbanism input: independent infrastructure plans. In addition, the emerging city is examined based on functionality and integration projections. The residential enclaves are selected alongside the emerging EAC as case studies for assessment based on prominence and geographical significance, i.e. two are located on Lagos Island (Banana Island and Victoria Garden City) and the other two on the Mainland (Magodo GRA and Omole Phase II). It gives balanced coverage of residential enclaves in the metropolis. Besides, the selected enclaves are also home to slightly different socioeconomic classes. That is, they capture somewhat varying levels of people in the upper socioeconomic class who are, inadvertently or not, drivers of the enclave urbanism phenomenon in Lagos.

There are several justifications for the choice of Lagos as the location of the empirical case studies for this research. First, Lagos is one of Sub-Saharan Africa's biggest economic hubs and fastest-growing urban centres, with a population of 25 million (Lagos state government, 2015). This economic potency attracts the population to Lagos from all parts of the country, as well as from neighbouring West African countries whose young populations travel across borders in search of better socioeconomic opportunities. This economic potency and burgeoning population have, in turn, led to sustained pressure on its physical infrastructure system (that could be outright described as grossly inefficient and moribund). Thus, a resultant outcome of the infrastructure ordeal is an escape strategy that has birthed the proliferation of enclave spaces within its urban space. These enclave spaces are elitist and usually involve private infrastructure provision and management arrangements.

Secondly, Lagos is a notable example of a post-colonial African city with experiences of urban fragmentation into zones, which have different levels of accessibility to infrastructure and public services (Olukoju, 2003; Gandy, 2006; The Punch Editorial, June 2021). The segregation of the city's landscape during the colonial era birthed the European Residential Areas (ERAs) existing in one part of the city with basic facilities and amenities. It was shielded away from the native areas with poor access to basic facilities and amenities. The creation of the ERAs- which were majorly located in the Ikoyi axis of Lagos- consequently laid the foundation of the enclave urbanism phenomenon in the city. They have since been transformed into Government Residential Areas (GRAs) and are mainly occupied by high-ranking government officials and wealthy individuals. Today, Lagos is witnessing a sustained fragmentation of its urbanscape through developing private, walled-off enclaves.

Thirdly, Lagos is home to one of the biggest (if not the biggest!) enclave city investments in Africa (the emerging EAC) which was started in 2009. It is developed by South Energyx Nigeria Limited and supported by the Lagos and Federal governments. This emerging premium enclave city has attracted international attention: in the media; among African and global scholars and urban planning experts; and also, in the international political arena- notably signified by the recent hundreds of millions of dollars invested in the city by the American government through its consulate in Nigeria. Conversely, the emergence of the EAC has been greeted with mixed feelings. In media discourse, urban planners and built environment experts have expressed concerns about the prospects of an independent infrastructure system and integrating the city with the rest of Lagos' metropolis. This research is thus positioned to provide a scientific investigation into such concerns.

Fourthly, Lagos presents an interesting urban conundrum. Despite the huge wealth in the city, over 70% of its population is classified as urban poor (Olajide, 2018), and they largely live in unplanned settlements and neighbourhoods, struggling with poor infrastructure networks and erratic social services. Most of these people survive on daily informal trading activities and sometimes have to pay taxes to local authorities whose representatives usually harass those not willing to comply with payment of such taxes and levies. Lagos' deeply polarised socioeconomic setting is typical of fast-growing urban centres in Sub-Saharan Africa, where economic growth does not usually translate to improved quality of life for most residents. Consequently, the proliferation of enclave spaces across Lagos – especially in the last three decades – has made this sharp socioeconomic disconnect and varying access to infrastructure and services very obvious. In other words, urban enclaves have, inadvertently or not, exposed the vulnerable situation of the urban poor in the city. This issue of sustained emergence of enclaved spaces due to deepening socioeconomic polarization and the emerging EAC makes Lagos a suitable case study location for this research.

In addition, the researcher's familiarity with the city, having studied and worked there for a combined duration of two decades, is also a justifying factor. Thus, the researcher can navigate the socio-physical terrain of urban Lagos without difficulty, identifying threats and opportunities in line with the ethics of scientific research. Conclusively, since Lagos represents an ideal case study location in Sub-Saharan Africa, the approaches, findings, and policy recommendations from this research may provide a guide or template for empirical research concerning the examined phenomenon in other cities with similar underlying socioeconomic characteristics and urban development patterns and outcomes.

3.3 Description of data sources

Basically, this research utilizes primary and secondary data for its major analyses. Primary data is obtained by the researcher directly, including field surveys through direct communication or observation, specifically in administering questionnaires, focused group discussions, personal interviews, and a few others (Kothari, 2004). For this study, primary data have been obtained by qualitative methods using the purposive sampling technique, explained in the next section. It is done through in-depth interviews, observations (to ascertain accessibility, functionality, and infrastructure provision within the case study enclaves by walking around, taking pictures, and writing notes), and casual discussions. In the case of

interviews, different sets of interview frameworks were designed for the different categories of respondents (residents of enclaves, enclave management organizations/associations, and infrastructure and built environment experts). Three sets of semi-structured questionnaires (one for each category of respondents) emerged from an initial single multi-theme design to capture the theme of the different frameworks formulated to achieve the research objectives - as outlined in table 3.1 below. The details of the questions are captured in appendix II-IV.

The first questionnaire type (A) captures the infrastructure development and management framework (to ascertain functionality and failure) and is administered to enclave management organizations or associations. There are questions on the driving concept behind the examined enclave; the roles and responsibilities of the management organization in terms of infrastructure provision and management; the assessment of financing, construction, management, and issues of functionality, interruptions, and quality assessment of the infrastructure. The second questionnaire type (B) captures experiences and outcomes of enclave living (concerning infrastructure provision and management) within the context-specific study framework approach. It is administered to residents across case study enclaves and representatives of different socioeconomic groups. There are questions about the experiences of respondents concerning the construction, management, and functionality of the assessed infrastructure in their enclave; the assessment of the role of the government in infrastructure funding and provision; the sociospatial fragmentation of the urban landscape. The last questionnaire type (C) examines the factors, forces, and elements at play to establish a basis for the assessment of social sustainability in the emergence of the EAC within the Lagos context. It is administered to urban planners, sociologists, built environment experts, as well as infrastructure experts. There are questions on the planning and implementation of the EAC; the infrastructure development principles of the EAC; the role of stakeholders and the development realities of the EAC within the Lagos context; and issues of social sustainability relating to urban enclaves within the urban context of Lagos.

For balanced analysis, this research also utilizes data from secondary sources. Secondary data has been pre-collected by individuals, departments, or agencies, has undergone analysis and is readily available in prints or publications (Kothari, 2004). Secondary data sources for this study include infrastructure/policy document(s) of the EAC, archives/websites of case study enclaves, journals, and scholarly articles (on enclave urbanism, infrastructure provision, and integration, social sustainability, as well as infrastructure integration approaches), and excerpts from EAC discourse in print and electronic media. Most of the secondary data have

been sourced electronically (websites) given their availability. Others were obtained from the enclave management organisations.

In summary, the table below explains data collection/source in relation to the research objectives for this study. It is noteworthy to mention that the objectives influence one another as each provides a basis for the next to be understood and resolved.

Research Objectives	**Data collection method/source**
1) ***To assess the structure, functionality and infrastructure management approaches of existing residential enclaves in Lagos.*** This assessment is based on interviews because there are no metrics available that can be consulted and referenced. Also, relevant policy documents establishing these enclaves are not available/accessible.	i) Interviews with selected residents in the listed residential enclaves. ii) Interviews with property managers/developers/infrastructure management departments (Electricity, water, and sewage) in selected residential enclaves of Lagos. iii) Interviews with Town Planners. iv) Interviews with managers/directors/service providers at departments of transport, electricity and sewage management • **Interview theme: Functionality and/or failure**
2) To examine the underlying planning and implementation aspirations and the development realities of an independent infrastructure system in the emerging EAC.	i) Analysis of publications of the EAC from its websites, promotional films, and newspaper articles. ii) Interviews with planning officers/ development managers/ infrastructure (Electricity, water, and sewage) experts of the EAC.

	iii) Interviews with the Lagos state government representatives through the ministry of physical planning and urban development. iv) Interviews with urban planning experts and sociologists in Lagos. v) Interviews with representatives of residents in three socioeconomic settings across the metropolis. • **Interview theme: Planning and Implementation aspirations**
3) ***To analyse issues of infrastructure provision and integration between the EAC and Lagos.***	i) Analysis and summary of the EAC infrastructure document. ii) Interpretation, analysis and drawing inferences from (2). iii)Interviews with experts on physical planning, electricity, water services and sewage management. • **Interview theme: Prospects and Realities**
4) ***To explore issues of urban sustainability posed by enclaves through the development of exclusive space and infrastructure systems in the Lagos urban context.***	i) Interviews with urban planners/ experts ii) Interviews with social scientists. iii) Interviews with infrastructure experts iv) Literature and theoretical analysis. • **Interview theme: Urban social sustainability**

Table 3.1: Research objectives and corresponding data collection methods and sources (Source: Author)

3.4 Data collection method and sampling

The main data collection methods for this study are expert interviews (preceded by observations and informal discussions when/where necessary) and document analysis. The interviews are semi-structured, thereby adopting the strengths of both structured and unstructured interviews to eliminate possible limitations and strengthen the interview process.

It presents questions in a laid down procedure (characteristics of a structured interview) but allows flexibility to ask supplementary questions when/if needed. It also allows for the possibility to omit question(s) if necessary – which is an attribute of the unstructured interview. (Kothari, 2004). The interviewer strictly asks open-ended questions that create an atmosphere for discussion to flow with the interviewee. Interviews were not pretested. Rather, a list of questions was prepared as a guide so as not to extend the discussion beyond the scope of the research objectives. The questions cover the driving concepts/ideologies driving the creation of the enclaves, including the EAC; the development of exclusive infrastructure through private initiative; the roles and responsibilities of organizations, ministries/departments/agencies in infrastructure provision and management; governance arrangement(s)/connections with state ministries, departments, or agencies; availability of infrastructure and quality of delivery; and issues of urban (social) sustainability relating to the EAC and the urban Lagos at large. Details of these are provided in appendix II-IV. In all, 34 interviews were conducted in two fieldwork phases. The first phase was between April – September 2019. During this phase, a total of 22 interviews were conducted. The second phase was between September 2020 – January 2021. Due to the ongoing coronavirus pandemic that brought about various travel and movement restrictions, only 12 interviews were conducted during the second phase.

However, to get credible data, a research project needs to adopt a suitable sampling plan. A sampling plan "is the design for how to specifically choose sources of your data" (Tracy, 2013, p. 134). For this research, the purposive sampling method is adopted. Purposive sampling, which is also called non-probability or deliberate sampling, is a sampling approach where the researcher deliberately picks unit(s) out of a whole as representative sample(s) "on the basis that the small mass that they so select out of a huge one will be typical or representative of the whole" (Kothari, 2004; p 59). The choice of opting for the purposive sampling plan is driven by the fact that different options and numbers of respondents are available for the interview process, but the selection has to be based on perceived suitability and conformity to the theme and purpose of the interview, and in line with set objectives (Bricki and Green, 2007). In addition, the strength of the purposive sampling method depends on the selection of the most suitable respondent(s) who exhibits knowledge (and/or experience) in the area of research interest and who can elucidate on the underlying topic or focus of the interview in the best possible way.

In applying a purposive sampling plan, a series of steps have been taken. Three residents are selected across each of the metropolis' four residential enclaves based on availability,

accessibility, and length of residency (not less than five years). The minimum five-year length of residency requirement serves as a check that a respondent has gathered ample knowledge and experience of the examined issue/phenomenon while living in the particular enclave in focus. Representatives of the management/development teams of the residential enclaves, including the development team of the emerging EAC, also form a part of the interview participants.

Further, six representatives amongst residents in the lower socioeconomic classes across the metropolis are selected and interviewed for a balanced perspective on the socioeconomic perceptions and implications of the sustained development of private residential enclaves across the Lagos metropolis. These residents are selected based on availability, accessibility, and their identity as middle- and low-income classes concerning their geographical placement in the socioeconomic cadre of Lagos. However, where they live (whether in a walled setting or not) does not matter since they represent the specified socioeconomic class. Finally, interviews are conducted with infrastructure and built environment experts in the public sector (working in Lagos state government ministries and departments) and private sector practitioners in Urban Planning, Architecture, Infrastructure Planning, Real Estate Development, Waste Management, Geography, and Sociology. The experts who are private sector practitioners are selected based on criteria which are: years of experience (minimum of ten years), availability, and locational consideration (some practitioners are based on Lagos Island while others are based on the mainland, which allows for balanced views and perspectives across the metropolis). The location of these experts does not in any way have anything to do with their area of expertise. Rather, experts across the defined fields were contacted and scheduled for an interview. Experts in the public sector are selected representatives of the Lagos State Ministries of Physical Planning and Urban Development, Transport, Waste Management, and Works.

3.5 Inductive and deductive data analysis

This study employs a dual approach of inductive and deductive analysis. The inductive approach- which is more suited for qualitative research - helps generate new ideas from data and thus, contributes to knowledge as the study seeks to explore a researched phenomenon further. The deductive approach comes to the fore when analyzing data for objective(s) that seek to validate or disprove an existing theory. The data analysis is patterned to generate a

thematic analysis and has been subdivided into five distinct steps to allow for clarity, structure, and meticulous outcomes. The steps include:

i) *Data transcription*: Since most data from this study is collected via semi-structured interviews mostly conducted in the English language (in some cases, the interview language is tuned to the local type of English called *Pidgin*), the first step is the transcription of data. Data transcription is simply converting audio data into text (Tracy, 2013). This study utilizes easytranscript software for its data transcription.

ii) *Data Organisation*: The transcribed data is organized to capture major themes with respect to study objectives and in coherence with the conceptual framework. The themes are planning and implementation (aspirations behind the emergence of the EAC), functionality and or failure (experiential outcomes of infrastructure in existing enclaves), prospects and realities (for infrastructure provision and integration in the EAC); and urban social sustainability (issues of concern). The themes were chosen after making preliminary observations on the first set of transcribed interview data. They were also refined as the researcher gained insights into organizing the interview data during subsequent interview sessions.

iii) *Coding*: In this stage, specific findings or outcomes are tagged according to properties/characteristics/categories that relate to themes to get an organised set of information for analysis (Bricki and Green, 2007). That is, the codes are assembled under categories of related themes. For this study, the descriptive coding (which entails identifying and summarising central themes/points/issues) method is adopted. They are projections, planning, implementation, infrastructure provision, infrastructure funding, management, sustainability, integration, outcomes, and accessibility (issues). However, the researcher also intermittently adopts the close reading approach in instances where it becomes necessary to establish facts based on the intercorrelation of themes to better comprehend the phenomenon and, in turn, improve the quality of processed data and findings.

iv) *Thematic analysis***:** The researcher interprets and narrates patterns and relationships between variables (themes) to *establish* findings - which are used to generate narrative insights and buttress arguments. The interpreted variables include enclave urbanism (urban enclaves), ideals/aspirations, infrastructure (provision), integration, and (urban) sustainability. These are used to generate coherent analyses

from participants' experiences. This stage entails much analytical thinking as the researcher correlates and analyses codes and themes to generate findings to make claims and assertions.

v) *Discussion and conclusion:* The researcher discusses findings from thematic analysis to establish warrants that clarify set objectives. In addition, research findings are also evaluated with literature or theoretical underpinnings to establish correlations or contradictions.

3.6 The research within the KRITIS study project

This study resonates with assessing the function failure of critical infrastructures, which is one of the focuses of the KRITIS Research project. Succinctly, the function failure of critical infrastructure in this study context refers to their provisional and or performance reliability. Here, the focus is on how the functioning and/or failure (interruption, inadequacy, or a combination of both) of infrastructure (provision and management) define *criticality* and how this is influencing the enclave urbanism phenomenon (in the Lagos scenario). This perspective/approach is necessary because promises of premium infrastructure and service provision are one of the main justifications for urban enclaving in the Sub-Saharan African context. Moreover, there is a dearth of studies on enclave urbanism across SSA examining infrastructure provision and management context-specifically and from the perspective of actors involved in its production. So far, contributions from the literature have also not examined the construction (both discursively and materially) of premium infrastructure spaces but resorted to ascribing them to the similitude of global North / West cities.

The KRITIS research project (see figure 3.1 below) sets out to explore the construction, protection, and functional failure of critical infrastructure through a multi-disciplinary approach that cuts across humanities, engineering, and social sciences. The goals are: to bring to the fore how the design, construction, and management of critical infrastructure defines or enhances their criticality or otherwise; to investigate how preparedness and prevention strategies put in place or that should be put in place guarantee the protection of critical infrastructure; and, to assess function failure of critical infrastructure, establish their vulnerabilities to internal and external forces, and, make scientific contributions and policy recommendations that will help in predicting, developing and or adopting resilience strategies for recovery and restoration during moments of failure and or interruptions.

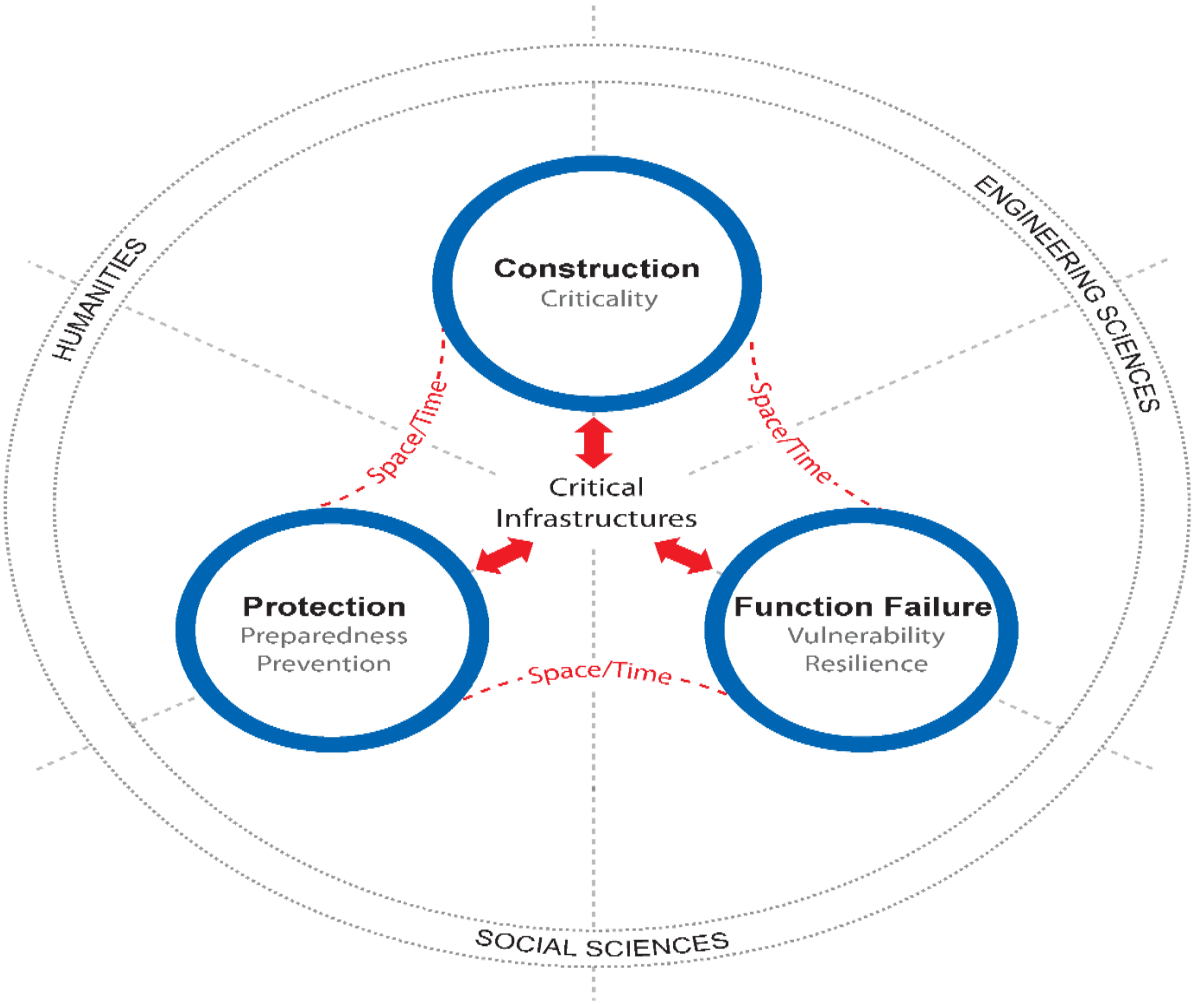

Figure 3.1: KRITIS Research wheel.

This research fits into the KRITIS project by contextualizing the assessment of function failure of critical infrastructure through the lens of enclave urbanism in a defined setting. As earlier mentioned, the function failure assessment is based on how the *construction, performance reliability*, and *management* of these infrastructures (in turn) define their criticality. In this study context, the researcher examines the financing, development, performance functionality, and management outcomes of transport, electricity and sewage infrastructure in the case study enclaves to define their *criticality*. It is then discussed concerning how the *criticality* relates to or influences the enclave urbanism phenomenon within the Lagos urban context. Also, the internal and external factors influencing their functionality and failure, which in turn underlines their vulnerability, are assessed from stakeholders' perspectives.

3.7 Ethical considerations and study limitations

The procedures involved in planning, organizing and executing data collection for this study come with a certain degree of ethical considerations. First is the resolution of the researcher to maintain good scientific practice while dealing with individuals, representatives and or groups of people before, during and after the interaction process, i.e. the interview sessions. The emphasis is on good scientific practice and conduct, such as being focused and open-minded in the course of the interviews, not trying to subdue or manipulate respondents' views, and ensuring that suitable respondents are picked for the various categories of interviews. To ensure credibility, all participants in the interview sessions are briefed about the nature and significance of the interview procedure and are duly informed about the need for clarity in their answers and expressions. Transparency is also exercised in the data analysis process: all data sets are transcribed and analysed, as the researcher bears it in mind not to be swayed by any favourite findings (Bricki and Green, 2007).

Secondly, the researcher recognises participants' rights concerning confidentiality and anonymity issues and has duly accorded them absolute prerogative to such rights. Thus, the issue of anonymisation and confidential treatment of participants' data and information is mutually discussed and agreed on. In light of this, all except one participant gave consent to recording the interview sessions and fully understood that the recordings were going to be used in data analysis for academic purposes only. Also, names of individuals and representatives of organisations/institutions have been anonymised/pseudonymised by fictitious names that can only be understood by the researcher.

Further, some ministries/departments/agencies in Lagos do not have credible (secondary) data that should readily provide facts, figures and documentary evidence(s) with respect to some infrastructure and phenomenon assessed by the researcher. On a few occasions where such data are available, there is either a blatant refusal to release them, or the researcher is asked to go through some bureaucratic procedures, which usually take several weeks or months and, in some instances, fall outside the schedule of the fieldwork. In this regard, the researcher resorts to two alternatives. The first is looking into the websites of such ministries/departments/agencies and extracting needed information while duly acknowledging their source(s). The second approach is quoting facts and figures from academic journals and publications of authors who have worked on the investigated subject matter (in Lagos). These two approaches have been adopted to sustain credibility in this research and eliminate any possibility of data inauthenticity. Thus, in some instances (as will be seen in parts of this thesis),

the researcher adopts quotes directly lifted from their sources to validate or strengthen arguments.

Notably, the researcher faced some limitations in the course of this study. The most challenging limitation is the lack of or improper documentation of statistical data from government ministries, departments or agencies in Lagos. Specifically, there was difficulty in accessing data and land use maps of existing residential enclaves. Also, the researcher was unable to access the EAC's development plan and also experienced significant delays in getting interview appointments with the EAC team. The EAC management team declined accessibility to the city's development plan, noting that the city is still emerging and its plan is subject to modifications. However, the development files/documents on the city's website provide an alternative source of data. In addition, there was difficulty and delay in assessing residents of case study premium enclaves. It is largely due to the bureaucracies of getting interview clearance from representatives of enclave management as well as private enclave residents. Lastly, the unplanned interruption and delay of field research trips by the Coronavirus pandemic also affected the actualisation of the completion date.

3.8 Summary and conclusion

The empirical data for this study is majorly derived from semi-structured interviews; although outcomes from personal observations also formed part of the primary data utilised. The interviews took place either in the home or office of respondents, strictly based on appointments. All interviews were recorded and anonymously transcribed for analysis. Also, the study utilises secondary data (from government archives and websites, print and electronic media, and journal documents). Research instruments include questionnaires and surveys. The study adopts a case study approach by selecting four premium residential enclaves and the EAC in Lagos.

Conclusively, the preceding methodological approach is adapted to fit the research premise and context of this study i.e. enclave urbanism, infrastructure outcomes, and issues of urban sustainability in Lagos. In light of this, there is a need to establish background knowledge of the characteristics and realities of urban development and infrastructure provision in Lagos. The knowledge of the historical evaluation of enclave urbanism, characteristics of urban development, and historical synopsis of infrastructure are examined, as presented in the next chapter.

Chapter Four

Enclave Urbanism and Infrastructure Paradigm: The Research Context in Lagos, Nigeria

4.0 Introduction

This chapter presents (historical) background and issues that are peculiar to or define the context within which this study is situated. Although the study situates itself in the global South debate of enclave urbanism within the Sub-Saharan Africa scope, its base context is Lagos (and its experience of enclave urbanism). While cities across Sub-Saharan Africa share certain peculiarities and socio-economic structures, they must be studied context-specifically. For instance, while some outcomes in Cape Town (Lemanski, 2007) may be similar to that of Lagos, they do not outrightly have the same underlying factors and forces at play. The apartheid era laid the foundation for sociospatial polarization and fragmentation in the former, while colonial planning footprints institutionalized urban fragmentation in the latter (as discussed in this chapter and others that follow). However, there is a tendency to reference experiences across the global South and, in some instances, the global North. This is to place the discourse in a proper context for better clarification.

In order to explore the research context, the chapter is structured as follows. It begins with the definition and classification of urban enclaves in Lagos in line with urban development trends from the colonial era until now. This section also captures the historical overview of enclave urbanism in the context of Lagos; and the historical and contemporary development of enclaves. The next section captures urban development outcomes and the enclave urbanism conundrum in Lagos. It is relevant as it establishes "what" and "how" varying infrastructure paradigms became a phenomenon across the Lagos urban space. It is followed by an assessment of the development characteristics of the case study premium enclaves in Lagos. The next introduces the Eko Atlantic City and its development peculiarities. This is followed by an analysis of the experiences of infrastructure provision and management in Lagos, exploring historical perspectives and realities of infrastructure outcomes. In the last section of this chapter, urban management in the light of governance relating to infrastructure and planning in the Lagos context is discussed. Here, the goal is to understand city planning and infrastructure approaches and interrelations.

4.1 Definition, classification, and historical analysis of residential enclaves in Lagos

In the general Lagos context, *enclave* seems to be a less "acceptable" word for *gated community* because of the latter's perceived suitability to describe the walling off and gating of carved-out living spaces. In some instances, within the Lagos context, *gated community* is sometimes used interchangeably with *enclave.* Within the Lagos *gated community* characterization, these living units could be "incidental (where street gates are erected in already existing neighbourhoods) and deliberate (designed and developed as autonomous), both resulting from gaps in the provision of urban security on one hand and infrastructure on the other" (Lawanson, 2021; p. 557). However, this study adopts a more pragmatic approach to resolving the description proposition of secluded spaces in Lagos. From Lawanson's (2021) description, the term *gated community* best describes those *incidental* enclosed spaces across Lagos because they are not usually planned and organized. Mixed socio-economic classes characterize them; in most cases, they emerge from the drive towards security and safety. Infrastructure provision and management are not a priority in most of these spaces.

Unlike the deliberately planned *enclaves* that started as GRAs, the idea of a *gated community* started with street gating in the late 1980s (Lawanson, 2021). According to the author, gating streets became common "when midnight burglaries were commonplace, and responses from security agencies were weak".

> "Consequently, homeowners began to erect fences, and soon after, communities, through resident associations mounted street gates that were manned by day and locked at night. The relative success achieved triggered other community projects ranging from road repairs to street carnivals. Street gating also helped to keep out extraneous traffic, especially when road repairs was achieved through self-help efforts. There are at least 64 incidental gated communities in Lagos" (Lawanson, 2021; p. 557).

Thus, in the wider academic debate, although they (the so-called *gated communities* in Lagos) have some of the characteristics of *enclaves*, they are **not** *self-sustaining independently planned infrastructure, city and living constellations.* Instead, the focus is solely on boundary setup. Therefore, the word enclave is contextually and conceptually appropriate for this study. It has been adopted to describe those (selected) living spaces within the urban Lagos that are *enclosed, largely mono-functional areas shielded by fences, walls, and legal instruments, often receiving preferential support from the government* (Schuermans 2016). According to Lawanson (2021; p. 559):

> "... In Lagos, gated communities (or enclaves) reinforce segregation – both spatial and social... while spatial segregation refers to the uneven distribution of social groups in space, social segregation refers to the absence of interaction between social groups as well as to the existence of barriers or prejudices that enable that interaction" (Lawanson, 2021; p.559).

Going by the above clarification, there are three categories of residential enclaves in Lagos: privately built residential enclaves such as VGC and Parkview estate; state government residential enclaves usually referred to as GRAs such as Magodo GRA and Omole Phases I and II; and federal government residential enclaves such as Banana Island. These enclaves have their similarities as well as differences. In terms of similarities, they are all fenced and gated with restricted access to non-residents, and residency comes with some financial commitment. The main difference between the enclaves is the type of management structure/pattern. VGC was privately developed in the 1990s and is managed by the VGC management company. Banana Island, situated on reclaimed land, was founded around 2000 and has a similar management pattern to VGC, despite being owned by the federal government. The state government-owned enclaves (GRAs) are planned and built by the New Towns Development Authority. However, in recent times, their residents' associations (Magodo Residents Association and Community Development Association – in Omole Phase II) are in charge of managing the enclaves.

Historically, the emergence of residential enclaves in Lagos dates back to the colonial era when the Europeans created special residential zones for themselves (Olukoju, 2003). These residential zones- located mainly around the Ikoyi axis of Lagos- were called the European Residential Areas (ERAs) and had functional amenities such as potable water supply, good road networks, proper sanitation, electricity supply as well as open spaces for recreation and relaxation (see plate 4.1 below). There were restrictions on non-European residents in the ERAs. However, some of these amenities were not functional in the areas where the natives lived. Giving a historical perspective, Olukoju (2003) writes:

> An important feature of Lagos society was the spatial segregation of the settlement since the nineteenth century... By 1929, there was a clear residential segregation on both sides of the Macgregor canal based virtually along racial lines. On one side was the densely populated African settlement and, on the other, the European Residential Area at Ikoyi, with Police and Army barracks and a few indigenous villages. For much of the colonial

period, urban facilities were concentrated in the European Residential Area and in the areas where public offices were located. (p.18)

Nigeria's independence in 1960 influenced the transformation of ERAs into Government Residential (sometimes said to be "Reserved") Areas (GRAs) without any significant spatial changes. They were usually occupied by top (military) government officials and wealthy private individuals (Interviewees 13, 21). The government of the Western Region of Nigeria also established more GRAs, such as Ikeja GRA located on the mainland (established in the 1970s). These estates were provided initially to create order in residential living arrangements. Although they still exist, some (like the Ikeja GRA) have upgraded to permitting commercial activities within their space. They are mostly populated by past and present government officials, high-ranking persons in the private sector, as well as wealthy individuals who can afford to rent or buy properties in such locations (Interviewees 5, 13, 18).

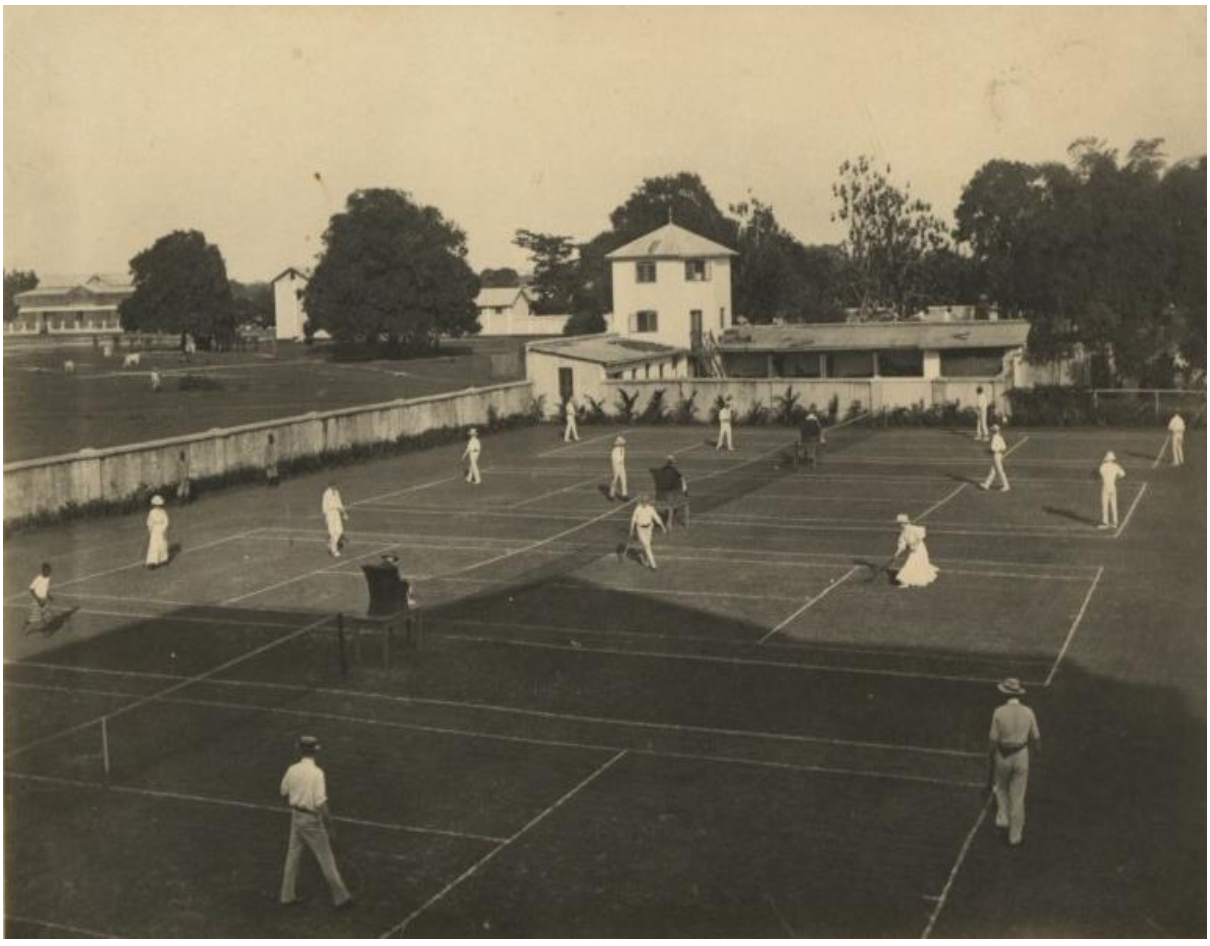

Plate 4.1: Recreation around the ERA (Source: colonial footprints on Google Arts and Culture)

Most of the state government's existing residential enclaves are like site-and-services schemes accessible to high-ranking government officials, but they are open to well-to-do individuals who can afford the service charges and other costs of residing in such (Interviewees

21, 30). The site-and-services scheme is a physical development approach whereby plots of land connected to some basic infrastructure such as electricity connection, drainages, and good road network are sold or leased to individuals (interviewee 5, 21). Conversely, most of the emerging residential enclaves in Lagos (especially in the past three decades) have private funding arrangements for infrastructure provision and management – unlike the colonial and early post-colonial enclaves that enjoyed state provision of infrastructure and services. Reasons for the private funding arrangements for infrastructure are: On the one hand, infrastructure provision, maintenance, and upgrading by the Lagos government are vastly deficient – even for urban elites in government residential enclaves. On the other hand, residents who earn relatively high incomes do not mind the self-provision of infrastructures (Interviewees 1, 8, 20, 24). However, private arrangements for infrastructure have resulted in the city's urban space having varying standards and quality of infrastructure, leading to a sharp disconnect between various neighbourhoods in the city (Interviewees 1, 10).

Notwithstanding its enclave urbanism antecedents stemming from the colonial era, Lagos urban space has experienced a sizeable urban development transformation since the post-colonial era, especially in the early 1980s into the early 2000s, when the city's economic boom attracted people from all regions of the country. The urban transformation is not without urban socio-spatial issues and the resultant consolidation of the enclave urbanism within its urban space. It is explored in the next section.

4.2 Urban development and the Lagos enclave urbanism conundrum

Lagos is noted for its high population growth rate rooted in its socio-political and economic importance to Nigeria. Lagos, Nigeria's foremost city during the colonial era and capital of the protectorate of Nigeria from January 1914, experienced a significant economic and physical transformation that continued into the post-colonial era until today (Olukoju, 2003). Although its status as federal capital terminated in 1991 when the seat of power was moved to Abuja, Lagos has continued to witness a significant boom in its economic activities spreading across maritime, finance, oil and gas and real estate. According to a study by Heinrich Böll Stiftung (2016), Lagos accounts for over 60% of Nigeria's commercial and industrial activities. The state ranks among Africa's largest economies if its economic base is assessed as a country.

Urban management approaches by past and present administrations in the state have not achieved the fundamental objective of improving the well-being of Lagos' residents and have

failed to alleviate poverty among the vast share of urban poor (Olajide, 2018), especially through the provision of infrastructure networks and services to serve the populace as well as boost economic activities. From a historical context, Lagos' urban development woes can be attributed to its failure to manage its population surge with effective physical planning and ordering measures by successive administrations and governments. Attesting to this, Olukoju (2003) explains:

> In spite of such efforts (the establishment of the Lagos Executive Development Board to manage town planning and urban renewal activities in Lagos after the bubonic plagues of 1924-30), unregulated urban developments prevailed. The massive influx of people and the poor enforcement of town planning laws, especially in the new areas of the mainland, vitiated efforts at proper town planning. (p19)

Notably, the last two decades have birthed the emergence of high-income residential enclaves. These premium enclaves are mostly privately built and managed by developers approved by the state government. Some of them were initially developed by the Lagos state government but have now become somewhat private enclaves where rich residents seek to escape the decaying and dysfunctional infrastructure system and erratic services provided by the government. These enclaves usually run on self-provision of infrastructure and services (physical infrastructure such as road and drainage systems are privately built and maintained) but sometimes have preferential access to services such as waste collection, water and electricity supply. Consequently, the lack of a coordinated and inclusive urban management approach- worsened by existing disjoined land use plans- has resulted in a huge inequality gap among residents of Lagos, and this fact is visible in the swelling number of slums in the state (Gandy, 2006; Olajide, 2018; Lawanson, 2021).

In the last decade, the Lagos state government has, in a bid to protect the Victoria Island axis from environmental degradation and encroachment by the Atlantic Ocean, initiated the construction of the Eko Atlantic City, currently built on land reclaimed from the Atlantic Ocean at the outskirt of Victoria Island, Lagos. The emerging premium infrastructure city has an underlying philosophy of becoming Africa's biggest business, financial and residential hub. This underlying drive, to a certain extent, is synonymous with the driving aspirations of other emerging premium enclaves across cities of Sub-Saharan Africa, such as Cape Town, Kigali and Accra, in the past three decades (Lemanski, 2007; Bhan, 2013; Watson, 2014; Cain, 2014). However, large enclave city projects like the EAC strikingly differ from smaller urban enclaves in that they are projected to change the trajectory of urban socio-economic development in their

host cities. For example, it is assumed that the EAC will boost the global city status of Lagos, as explored in chapter six.

Nonetheless, the emergence of the EAC has triggered some social and environmental outcries. A notable example is amongst residents in adjoining coastal communities of Lagos. For instance, residents in the Okun Alfa area claim that the community's coastlines have been receding and experiencing flooding at usual frequencies since the commencement of the land reclamation activities marking the beginning of the EAC project (Interviewees 2, 4). It raises some concerns, including stakeholders' input and consideration in the decision-making process, as fully explored in the sixth and seventh empirical chapters. Irrespective of the concerns, the city is fast emerging. The next section examines the case study enclaves and the EAC.

4.3 Lagos premium enclaves (case studies) and their development characteristics

Urban development mismanagement (especially over the past three decades) fuelled by unprecedented population growth and relatively poor physical planning control and management activities has triggered the sustained development of enclaves across the Lagos metropolis. Recently, this kind of development has been concentrated along the Lekki-Epe expressway, which is experiencing significant population growth coupled with strenuous traffic movement. This study examines four premium residential enclaves and the Eko Atlantic City (EAC), as explained in the methodological section. They are introduced in the subsections below. However, the motives for enclave living, their management and governance structures, and infrastructure provision approaches are explored in chapter five.

4.3.1 Banana Island

Banana Island is an extension of the Ikoyi area. It is located in the Lagos Lagoon, connected to Ikoyi by a dedicated road, which links it to the existing road network near Parkview Estate, and is located 8.6 kilometres east of Tafawa Balewa Square (TBS). The Island is artificial and slightly curved, just like a Banana. It is located in Eti-Osa Local Government Area in central Lagos and is renowned for hosting an array of wealthy Nigerians from all tribes and a location for some of the most expensive real estate properties in Nigeria. The Lebanese-Nigerian Chagoury Group developed the Island in partnership with the Federal Ministry of Works and Housing (Interviewee 33).

Plate 4.2: Aerial view of a section of Banana Island's (built) curved layout. (source: Propertypro Nigeria on https://www.propertypro.ng/blog/banana-island-all-you-need-to-know/)

BIPORAL is the organization responsible for managing Banana Island, and its main office is located within the enclave just by the main entrance. BIPORAL is the acronym for *Banana Island Property Owners and Residents Association Lagos*. According to the organization, "whether you are a property owner or a tenant, you are a resident of the Island, then you have a say in the association" (Interviewee 33). BIPORAL presents a short portrait:

> "Banana Island estate is supposed to be an estate for high-earning residents (of Lagos) that are high net worth- so to say; residents that have the capacity to live in an estate that is like this... and an enclave that can be compared to other prime estates all over the world. The brainchild is the federal government. They are the progenitors, and they have/had a partnership with a private company, C and C (Chagoury and Chagoury). The estate was jointly developed by both parties roughly more than 15 years ago, and the essence of the enclave is to have high-class people living there and still have access to wherever they need to get to within the state. It is in Ikoyi. If you look at the estate, it is not the kind that we used to have in the old Ikoyi settings. Well, they have some plots of land that are big but not that kind of massive sizes that we have in old Ikoyi" (BIPORAL, January 2021).

Banana Island occupies a sand-filled area of approximately 163 hectares. Its Banana-shaped layout (see plate 4.2 above) is divided into 536 plots arranged along cul-de-sacs to reflect the

historical perspective of residential development in Ikoyi. A plot of land in Banana Island ranges from 1000 square metres to 4000 square metres. The island comprises planned, mixed development for residential, commercial, and recreational uses including hotels, police and fire stations, schools and others (Interviewee 33).

4.3.2 Victoria Garden City (VGC)

Victoria Garden City is a privately owned and operated premium residential enclave located along the Lekki-Epe Express Way, Ajah area of Lagos. It was developed in the 1990s by HFP construction company and has an urban growth rate of 16% to 18%, spanning 200 hectares of residential, commercial, and public uses. The road network was implemented about 30 years ago when the estate was designed and it is currently maintained by VGC forum operations and management (Interviewee 15).

Plate 4.3: Aerial view of VGC. (Source: Lagos City, @LagosCityNaija on www.facebook.com).

The VGC is a community with relatively functional infrastructure services compared to what obtains across the Lagos metropolis. The infrastructure service includes a good road network, efficient water supply, and treatment service, drainage system, 24-hour security services, a school, a commercial bank, a recreational park, and a shopping complex (see the

aerial view on plate 4.3 above). Due to its relatively successful enclave arrangement, VGC has become a model for existing and emerging premium enclaves across the Lagos metropolis. It is arguably, the most prominent residential enclave along the Lekki-Epe axis.

4.3.3 Magodo GRA Phase II

Magodo GRA Phase II is one of the renowned residential enclaves in Lagos. It is located in Isheri, Kosofe local government area of Lagos state, with a land area of about 250 hectares. Magodo GRA is characterized by two predominant landforms, which are flat topography and the Ogun river valley. Its elevation ranges between 27 and 45m above sea level (Oloruntola et al., 2017). It relatively manifests a touch of physical planning and ordering and two entry and exit points for residents and visitors.

The enclave is managed by the Magodo Residents Association (MRA) through a body of executives elected among residents. The MRA representative (Interviewee 31) presents a historical background to the creation of the enclave:

> "Sometimes (years) ago, the government of Lagos state acquired an expanse of land here with a view to establishing a residential estate so that they can do better infrastructure. In fact, they told the people then that they wanted to build a big health centre. That was the initial discussion, but along the line, they began to allocate the places (plots) as residential. Many people got it; some people bought it later. But the driving force for this estate, what makes people come here is more security. We take security as the most important aspect of living. So, it (security) is the prime thing. You know, there are only a few entrances, and it does not go elsewhere. You can only come in and go out through the gates. It is a driving force that people look at before they say they want to come here... but for the government, they were establishing residential estates as they have been doing before. You know, they have established so many residential estates, Magodo Phase I, after that there is Magodo Phase II, there is Omole Phase I, after that, there is Omole Phase II..."

The enclave is further divided into twenty-one (21) zones for flexible administration, management, and participation. Like the central executive body, each zone has functioning officers such as the coordinator, the general secretary, and others. The zonal coordinators are representatives of the central MRA.

Plate 4.4: A view of one of the streets in Magodo GRA II. (Source: https://www.neighbourhoodreview.com/a-comprehensive-review-of-magodo-gra/)

4.3.4 Omole Phase II

Omole Phase II, like Phase I, is a residential enclave six kilometres west of Ikeja, the Lagos state capital city. The enclave is located in Isheri Local Council Development Area (LCDA) in Kosofe local government of Lagos state. It spans over 200 hectares and is connected to the Lagos metropolis via two intersections: the Otedola bridge underpass and the Isheri road. Residents can retire into the enclave's serene environment after navigating the hustle and bustle of the Lagos-Ibadan road and the busy Ojodu Berger intersection. It is predominantly inhabited by high-income people and has amenities such as street lighting, a good road network, and paved sidewalks on some streets. Visitors are subjected to security checks at the two main entrances. Also, local stores sell groceries, but no large markets or shopping malls.

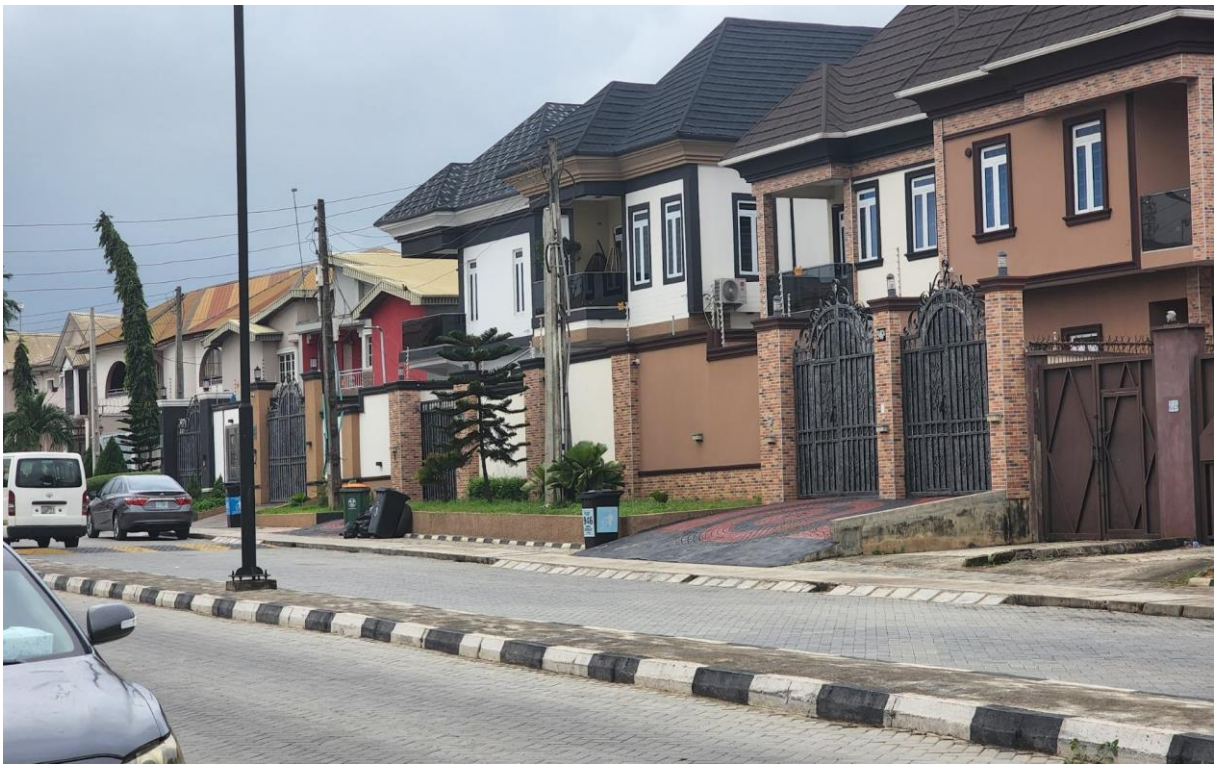

Plate 4.5: A view of a street in Omole Phase II (Credit: Tofunmi Falade/Nigeriapropertycenter)

The enclave is managed by a Community Development Association (CDA), an association formed by the residents. The CDA is made up of an executive committee and has a Board of Trustees. Its CDA building (plate 4.5 above) is located just before the security checkpoint when accessing the enclave from the Otedola entrance. It is saddled with the responsibility of managing the developmental and administrative affairs of the enclave. Omole Phase II residential enclave, like Magdodo GRA, is developed by the Lagos state government through the NTDA.

> The New Town Development Agency came up with the estate. I would like to believe they are trying to provide a premium estate and residential area like they have been doing. That must have been the driving concept. Of course, you know the state is just trying to provide accommodation and residential areas… so that must have been the driving concept behind it. So, I'd like to go with providing premium estates for Lagosians to dwell in. (Interviewee 28)

Notwithstanding its ownership and development structure, the realities of the physical development and management of the enclave are such that residents come together to create a better living, recreational and commercial experience with little or no support from the concerned relevant government departments or agencies. It is explored in the next chapter.

The foregoing assessment of existing residential enclaves in Lagos demonstrates different realities of urban living characterised by boundary set-up and internal structuring in a

bid to protect enhanced living experiences. It is notwithstanding the state's drive towards an integrated megacity. However, the realities of urban living, infrastructure provision, management and physical development regulation in these enclaves are complex and multi-faceted, revealing semi-autonomous living arrangements that are also dependent on the central urban Lagos, as will be explored in the empirical chapters. Nonetheless, the EAC depicts a new level of urban living advancement in Lagos and across the Sub-Saharan Africa region. It is introduced in the next subsection.

4.4 The Eko Atlantic City (EAC) and its development characteristics

This subsection aims to introduce the EAC and its development characteristics. However, there is a less contextual presentation because the development characteristics, management approach, infrastructure realities and urban sociospatial assessment in the context of Lagos are fully explored in chapter six.

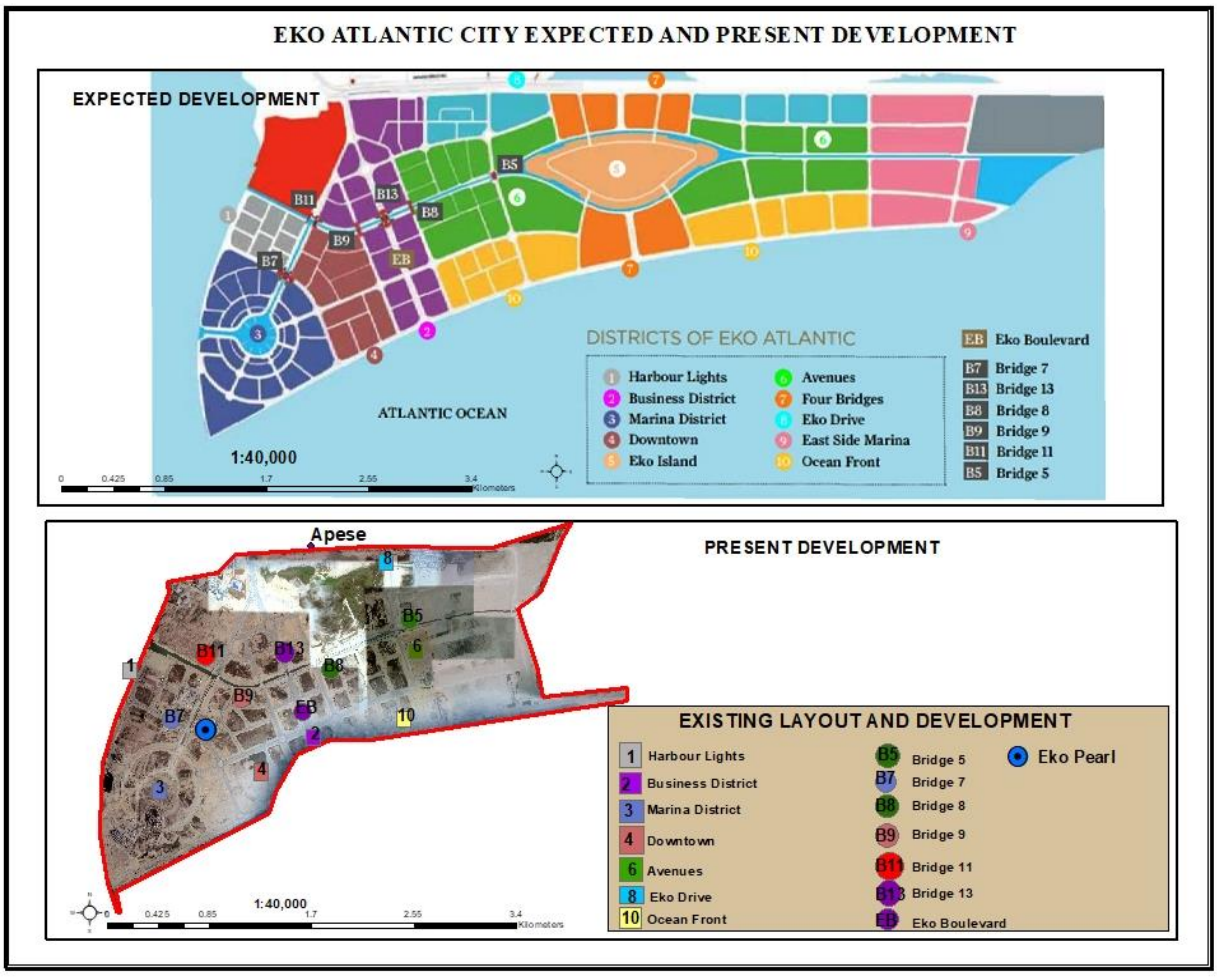

Figure 4.1: The Eko Atlantic City (Source: Author)

The Lagos state government initiated the development of the Eko Atlantic City (EAC) in 2009. It is located off the coast of Victoria Island and on land reclaimed from the Atlantic Ocean. The EAC is developed on 1,000 hectares (10 million square meters) of reclaimed land. It is projected to be the financial hub of Lagos, combining residential experience with commercial activities (www.ekoatlantic.com). It is different from the physically secluded premium enclaves in that it is a city that is entirely designed and planned in a new land area and has activities and facilities to promote self-functionality. By and large, the emerging city is not only bigger in size but also broader in its development scopes such as its functionality, and projected socioeconomic benefits. It is unlike the case of Banana Island and Victoria Garden City, where residents still have to interact with other parts of the metropolis for business and or commercial purposes. Development in the EAC is ongoing, road infrastructure has been completed, and some business/residential towers have been completed.

Though the EAC development is majorly privately funded and exclusive with its management team, it is still under the auspices of the Lagos state government regarding development control and physical planning regulations. The planning, implementation and aspirations behind the emergence of the EAC will be discussed in a subsequent chapter. Driven by the assertion that there have only been scanty studies on the profiling of urban infrastructure (provision, management and networking) in post-colonial urban centres across Africa (Monstadt and Schramm, 2017), the next section explores the state of infrastructure provision and management in post-colonial Lagos. It examines the historical perspectives and realities of infrastructure provision and management in urban Lagos.

4.5 Urban characteristics, Infrastructure provision and management in Lagos: Historical perspectives and reality

Lagos has witnessed a significant decline in the quality of its infrastructure and urban environment (Olajide, 2018), especially since the Structural Adjustment Programme of the government of Nigeria in the 1980s (Gandy, 2006). The neglect by successive governments from the post-colonial era to the return to a stable democracy in 1999 has led to Lagos experiencing a gross infrastructure deficit, a sustained increase in the number of slum dwellers owing to a high rate of population growth, and, expectedly, a high number of people classified as urban poor (Gandy, 2006). Urban expansion has been lopsided, and non-participatory as development in Lagos struggles to keep up with population growth, leading to acute shortages and inefficiencies in the provision of housing, transportation, healthcare and urban services

(Ibem, 2011; Olajide, 2018). Capturing the abysmal state of Lagos' infrastructure – until the end of the twentieth century, Gandy (2006) wrote:

> Over the past 20 years, the city has lost much of its street lighting, its dilapidated road system has become extremely congested, there are no longer regular refuse collections, violent crime has become a determining feature of everyday life, and many symbols of civic culture such as libraries and cinemas have largely disappeared. The city's sewerage network is practically non-existent, and at least two-thirds of childhood disease is attributable to inadequate access to safe drinking water. (p. 372)

The situation is no better than what we have today, as successive governments after the return to stable democratic regimes have adopted piecemeal approaches to solving urban infrastructure challenges (Olajide, 2018). According to the study by Heinrich Böll Stiftung (2016):

> "Deficits have arisen in the areas of health care, waste disposal, energy and water supply, as well as infrastructure and hygiene conditions. Densely populated neighbourhoods and a high percentage of informal city production (see plate 4.6 below) make reforms and upgrading measures difficult. However, the government's motivation to change the current situation seems relatively low, and investments in major new town projects such as Eko Atlantic City appear to be the more attractive way". (Heinrich Böll Stiftung, 2016; p. 229)

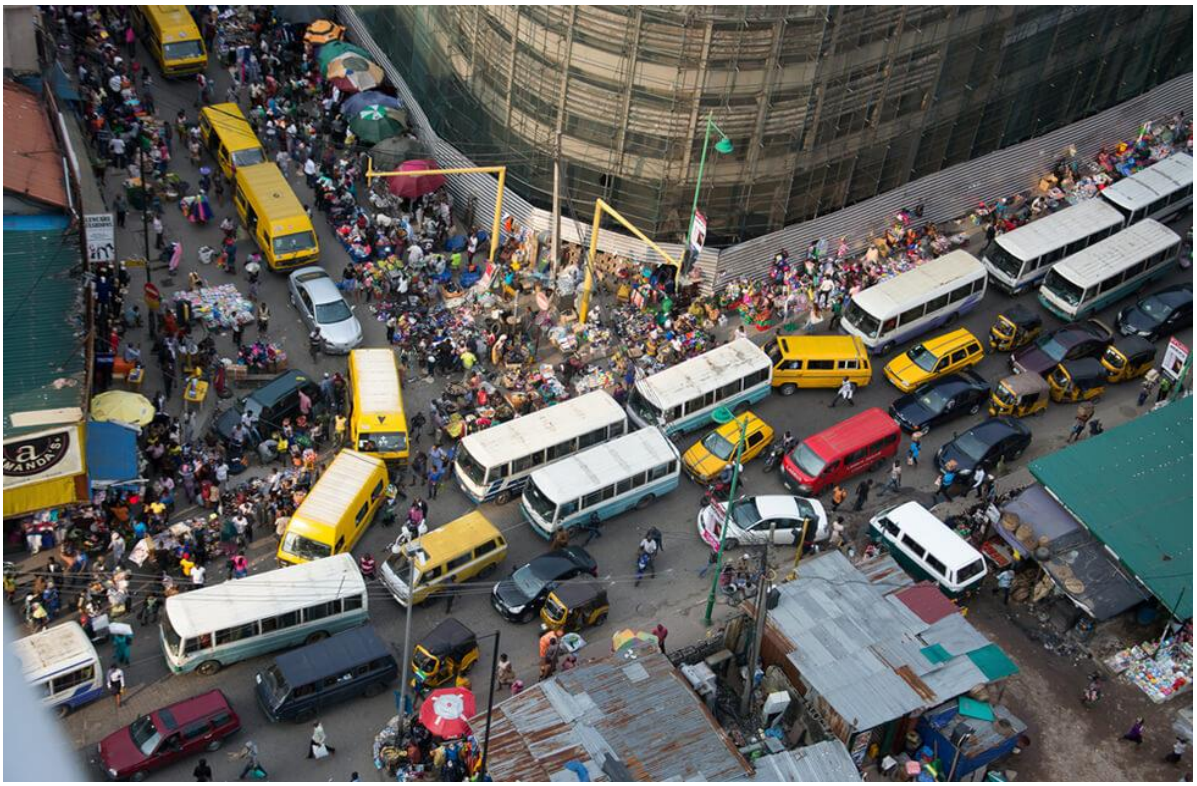

Plate 4.6: Trading activities and traffic inside Lagos Central Business District. (Source: Landlagos.com)

The above study is corroborated by a recent assessment of Lagos' urban infrastructure profile by Nigeria's top newspaper, The Punch Newspaper. In its 17 June 2021 editorial titled *Improving Living Conditions in Lagos*, the newspaper's editorial team comments on recent local and global concerns on the state of infrastructure in Lagos:

> "A new survey on living conditions in the world's major cities has put a damper on claims to top-notch megacity status for Lagos, Nigeria's premier city, by the eponymous state government. The Global Liveability Index 2021 prepared by the Economist Intelligence Unit ranked Lagos as the second-worst city to live in, at 139th of 140 major world cities ranked. Despite the huge expenditure over the past two decades, Lagos remains far from delivering the optimal infrastructure, social services, and security for its 21 million people. Transforming Lagos from a megacity to a hyper city requires management methods that align city-level development with metropolitan planning... From 1984 onwards until 1999, infrastructure rollout and renewal did not keep up with exponential population growth. While skyscrapers, modern buildings and opulence are evident in some places, slums also multiplied, and social services are stretched. Only 10 per cent of the population has a regular supply of water from the state water utility. A 2016 report estimated daily demand at 724 million gallons while production was 317 million gallons, leaving most residents to rely on wells, boreholes, streams, and rainwater. Power is in short supply. Educational, health and sanitation services are inadequate. The UN estimates the housing deficit at 2.6 million units". *The Punch Editorial, 17 June 2021.*

From 1999 until date, governments have focused majorly on transport, educational and housing infrastructure projects, with a little touch on healthcare, sewage and power infrastructure- largely under the control of the federal (central) government. Investment in transport infrastructure has largely focused on road network expansion and repair of existing ones (LAMATA, 2010). On its official website, LAMATA affirmed that:

> Prior to the establishment of LAMATA, the public transport system in Lagos was dysfunctional and unregulated. Lagos had a population estimated at over 10 million in 2000, and is projected, although conservatively, to grow to more than 25 million by 2015. However, transport infrastructure and services were at levels that supported a population of no more than six million. As a result, levels of efficiency and productivity in the metropolitan area had been adversely affected by a growing weakness in the

physical infrastructure required to support the basic needs of the population. (Lagos Metropolitan Area Transport Authority, October 2018. Retrieved from https://lamata.lagosstate.gov.ng/)

The transportation management agency also reveals that the majority of the public transport operations in the state are privately owned and managed. Specifically, there are about 75,000 commercial buses, popularly called *danfos* which are either driven by their owners or given out to another driver for daily delivery of income. In some instances, the buses are given out on a higher purchase agreement- the owner gives it out to a person who will make daily delivery of a certain amount and then, after meeting a target amount, usually double the price of the vehicle in a given time, he/she becomes the new owner. The operators of commercial bus transport systems in Lagos belong to primary associations: the National Union of Road Transport Workers (NURTW) and the Road Transport Employers Association of Nigeria (RTEAN). The largest is the NURTW.

Successive governments have only managed to invest in the Bus Rapid Transit (BRT) system, which led to the importation of special buses and the construction of Bus terminals at different sections of the state's transport axes. Some investments have also been in developing the city's waterway transport (jetties). Lagos city does not have an available intra-city tram or rail system. Although there are ongoing development initiatives to connect some corridors of Lagos using a rail network, speculations are rife among residents and transport development experts on the source of power for the network. Ideally, a modern intra-city rail system runs on electricity, but the consistent disruptions and breakdowns in the provision and availability of power supply in the city cast doubt on the intra-city rail initiative.

Electricity is provided and regulated by the federal (central) government; and, although the distribution process has been handed over to private operators after the privatization of the power sector carried out by the immediate past president, the power supply in the Lagos urban centre is still suboptimal (see figure 4.2 below), erratic and comes with high charges. The government's investment in water, sewage management and sanitation infrastructure have been poor. Less than 20% of Lagos has access to the municipal water supply. Others simply have to rely on sources such as shared taps, wells and commercial water hawkers. The sewer system is non-functional, as residents have to contract private operators for repair, treatment and evacuation (Gandy, 2006; also see figure 4.2 below). Lagos State Water Corporation, the agency responsible for providing potable water for residents in the state, clarified on its website that:

Currently, the total installed water production capacity is 210 million gallons per day (MGD), which is lower than the current demand. In the Corporation's renewed effort to solve the problem of water shortage and ensure a steady supply for the growing population of Lagos, the Lagos Water Corporation has developed a Lagos Water Supply Master plan as a "Road Map" to take the water production capacity of the State to 745 million gallons per day by the year 2020. (Brief History of Lagos Water Corporation, May 2019. Retrieved from http://watercorporation.lagosstate.gov.ng)

Access to Basic Services and Infrastructure in Lagos, Nigeria	
Infrastructure	***Accessibility rate/percentage***
1. Public Transportation	• 3% have access to the BRT service. • 72% use the informal bus service (*danfo)*. *It is estimated that there are over 5 million users of private cars/vehicles in Lagos.
2. Electricity	• 1,000MW against the required 4,000MW *Electricity services have not improved since the privatisation of the power sector in 2013.
3. Sewage and Improved Sanitation	• 28.1% have access to waste and sanitation services. *Majority of residents use septic tanks/soakaway systems due to a lack of a centralised sewage management system.

Figure 4.2: Access to basic services and infrastructure in Lagos. (Source: adapted from Rukmana, D. (2020). *The Routledge handbook of planning megacities in the Global South*. Routledge; pp. 38-9).

The assessment of the state of infrastructure and service provision in urban Lagos points clearly to the fact that a lack of effective urban governance and management approaches has been a significant factor that has led to the predominant availability of ageing infrastructure and dysfunctional services to the populace. It has, in turn, led to a privately driven escape strategy that has birthed the spread of enclave spaces across Lagos' urban landscape. In this regard, there is a need to examine and understand urban governance and planning approaches to make a case for better and more proactive measures. Thus, the next section examines governance in light of

Lagos' urban planning arrangements and infrastructure development efforts and input, making a case for the need for a more sustainable planning approach(es).

4.6 Governance, infrastructure and planning in Lagos: Assessment and imperative

Lagos state has its seat of power located in Alausa, Ikeja- the state capital. The state is governed by a governor and assisted by a deputy. Also located in Alausa are the state ministries of Lands and Housing, Physical Planning and Urban Development, Finance, Commerce and Industry, Transportation, and Water Resources, among others. The state administrative component comprises 20 local governments and 37 local council development areas, each governed by elected representatives.

Infrastructure provision is a shared responsibility between the state government, the local governments and local council development authorities. However, there are administrative levels to infrastructure provision. For instance, the state government is in charge of the construction and maintenance of state roads, general hospitals, security, regulation of trade and commercial activities, signage and advertisement, development control on state lands and on developments that exceed certain limits/specifications, water services, transportation, corporate tax and revenue collection among others. The local governments and local council development areas are responsible for the construction and maintenance of local roads and drainages, development control at the local level, tenement rates and taxes, primary healthcare services, regulation of parks and terminals and other responsibilities as may be directed by the state government. Despite the privatization that transfers over 60% of management and control capacities to Electricity Generating Companies (GENCOs), Electricity Transmission Companies (TRANSCOs) and Electricity Distribution Companies (DISCOs), the power supply is still erratic and sometimes, consumers have to pay for such service or risk disconnection.

Investment in public housing, just like in other public goods/infrastructure, has declined and become grossly inadequate to the demands of the residents (Ibem, 2011; Olajide, 2018). Thus, the move by private developers to expand the real estate base of the metropolis appeals to the city administrators, who seem not to have any objections to infrastructure development in such residential spaces. One may argue that investment in public housing is usually not for the elites, but Lagos' high number of urban poor and the middle class validate the need for such investment that ensures provisions for all categories of income earners.

Regarding the physical planning approach and input assessment, the Nigerian Urban and Regional Planning Act (1992; Article 1.2) dictates that each state of the federation should have regional, sub-regional, urban, local and subject plans to regulate and coordinate development within their space. In the same act, Article 1.3 dictates that to allow for balanced, coordinated physical development at the local and grassroots levels, local government areas within states should have town, rural areas, and local and subject plans. To this end, the planning of the Lagos state urban environment is the responsibility of the Ministry of Physical Planning and Urban Development (MPPUD), located in Alausa, the state capital. There are physical planning permit authorities across the local government areas that are responsible for coordinating physical development activities at the local level. Their activities are complemented by the Lagos State Building Control Agency (LASBCA). Despite these institutional arrangements, physical planning regulation and control activities within the city remain hugely ineffective.

Intrinsically, there is a strong link between governance, physical planning and infrastructure provision and management outcomes in Lagos. As examined, the failure of physical planning to match up with urban population growth in Lagos (especially in the past three decades) has made providing infrastructure very difficult and retrogressive. It has been enabled by civilian administrations that have tilted toward elitist tendencies in their governance of Lagos since the return to democracy in 1999 to date. However, since urban enclaves have become a common feature across the Lagos urban space, examining their implications and urban planning tendencies is expedient. Moreso, whether they are necessary for urban intervention or not remains to be empirically established. Hence, the next chapters provide an empirical examination of the outcomes of infrastructure provision in case study enclaves and the emerging EAC, focusing on their planning and development, functionality and or failure as well as prospects and realities of integration. These issues are empirically examined and discussed in light of the urban (social) sustainability debate. The next chapter presents the first stage of empirical analysis, capturing the characterisation of urban enclaves in Lagos concerning their motives, management, infrastructure provision approaches and issues of concern.

Chapter Five

Analyzing Urban Enclaves in Lagos: Infrastructure Provision and Issues of Enclaving

5.0 Introduction

This chapter examines enclave urbanism through identified case studies of premium enclaves in Lagos from the perspective of infrastructure provision and management using thematic analysis through a descriptive approach (as captured in the methodology chapter). It is because promises of premium infrastructure and service provision are among the central justifications for urban enclaving. Hence, the need to analyse the characterisation, functionality and infrastructure provision assessment in existing residential enclaves of Lagos, which is in line with the first objective of this study. The findings of this chapter answer the first research question: *what lessons can be drawn from infrastructure provision and functionality assessment in existing residential enclaves of Lagos?* It helps to establish knowledge of the roles and outcomes of actors, forces, and elements in the existing premium enclaves of Lagos. Studies on enclave urbanism have not examined infrastructure provision and management relationally and context-specifically. So far, contributions from the literature have also not examined the construction (both discursively and materially) of premium infrastructure spaces in-depth. There is, thus, a need for empirical studies of the outcomes of infrastructure approaches in existing enclaves. The study context of this research provides relevant case studies.

The emergence of enclaves can relate to their social and material effects and the social and material practices that led to the phenomenon's emergence in specific cities (Coutard, 2002; Wissink, 2013). Instructively, the sustained proliferation of enclaved spaces comes with obvious socio-physical and economic implications such as urban fragmentation and socio-spatial exclusion. In the general study context, this splintering is usually manifested along socioeconomic lines, capitalising on poor public investment in infrastructure to manifest fragmentation of its provision. Different infrastructure paradigms along socioeconomic lines have emerged, which, in turn, threaten urban socio-spatial stability, as seen in the case of Cape Town (Lemanski, 2007) and Ghana (Ehwi et al., 2019). These manifestations of the enclave urbanism phenomenon necessitate a focus on (the outcomes of) infrastructure provision and management.

The subtle privatization and commercialization of basic infrastructure and service provision is a pertinent issue of concern. Lagos' case is especially striking given that access to quality infrastructure and service provision is gradually dwindling. The fragmentation of its

urban space comes with either subtle neglect of some sections of the population when other living spaces may have preferential access to infrastructure and services or the commercialisation of services and amenities to the advantage of some groups of residents. The role and intentions of the city managers become questionable where urban fragmentation is privately driven and sustained. It is because the majority of the people are poor and vulnerable. This chapter analyses electricity, transport and sewage infrastructure provision and management in four qualitative case study urban enclaves (see figure 5.1 below) in Lagos - in line with theoretical evaluations and stakeholders' perspectives. Other infrastructure types are mentioned and discussed.

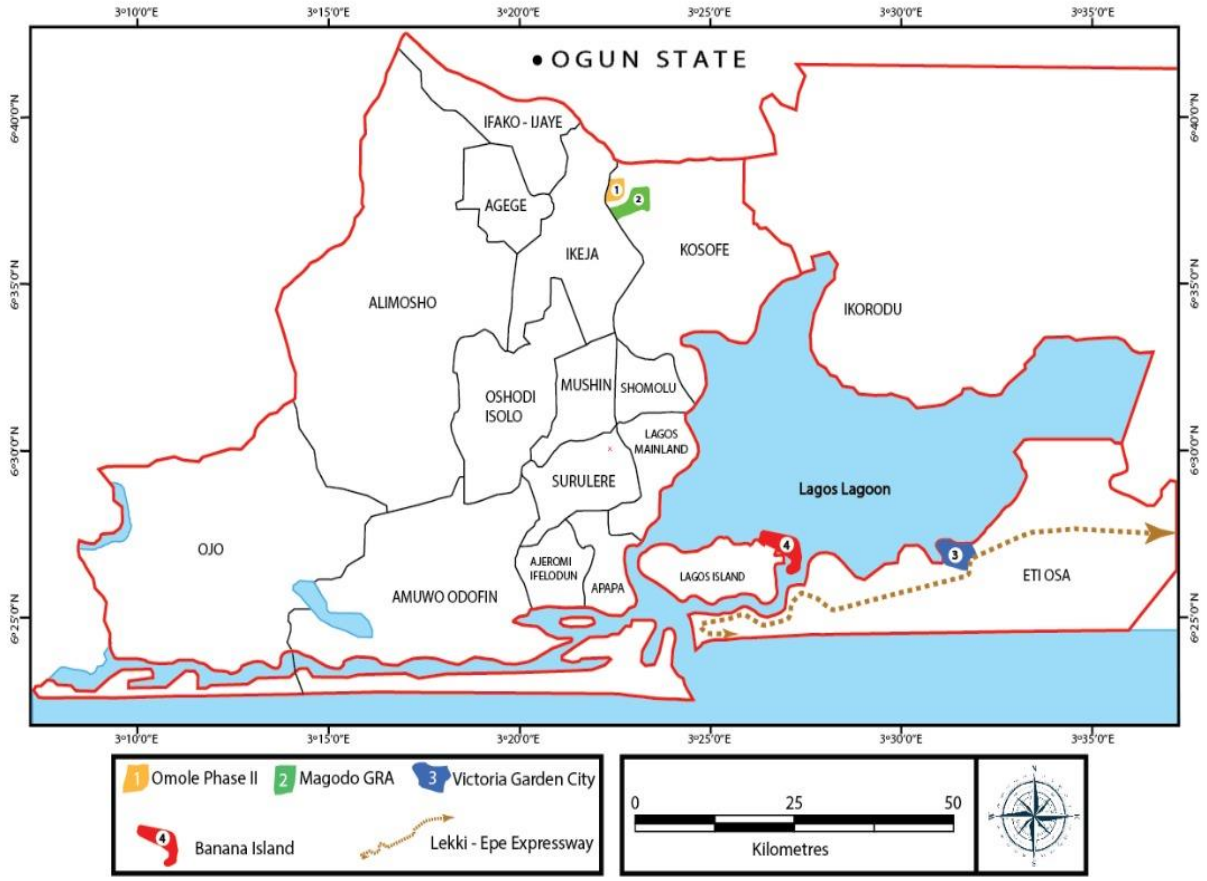

Figure 5.1: Map of case study urban enclaves in Lagos. (Source: Author)

The chapter is hereafter divided into three sections that capture the motives, infrastructure funding and provision approach, and urban enclaving issues and imperatives. The first section examines urban enclaving in Lagos - as the consequential outcome of its urban growth mismanagement, thereby sustaining residents' desire for safety and an organised physical environment. The second section shows how private provisioning and management of infrastructure in the case study enclaves are self-help strategies to beat infrastructure

inadequacies and service interruptions. The last section presents arguments from the first two sections, establishing that urban enclaving in Lagos complicates its urban growth and development realities.

5.1 Motives for Enclaving in Lagos

This section aligns with the submission of Wissink (2013), emphasising the need for conscious attempts through studies to understand the workings and roles of places, people, actions and networks over time and space. In Lagos, urban development patterns have, inadvertently or not, been manifesting along with reflections of colonial mentality where one group's interest, urban safety and security are secured at the expense of the other. Today, the existence and access to infrastructure largely depend on the socioeconomic status of residents. Infrastructure provision has been manifesting along this line, as will be examined.

Although enclaving depicts an escape strategy of the urban elite to avoid inefficiencies characterising the metropolis, the realities and effects of urban fragmentation may be more complex. For instance, a significant factor inducing urban enclaving in Lagos is that the core areas of Lagos are somewhat dysfunctional, creating some ripple effects:

> ... the core areas of Lagos are congested, with poorly developed large infrastructure. So, the elites (the high class) who could afford to build their enclaves are moving to where land is available to build their estates to suit their tastes. So, when you go to the Lekki corridor, you will see high-class development going on along that corridor, affecting the value of land and you could see some semblance of well-organised communities. Although gated, but then, they look better planned than what you could find in the rest of Lagos... (Interviewee 24)

Consequently, there is a sustained land-grabbing effect in the interest of the urban elites who seek more space, order, comfort, serenity and functionality. It is because some of the enclaves are built on lands purchased from local farming communities (Interviewee 22). Such an outcome is evident along the Lekki-Ajah axis, where organised, high-class enclave development displaces old communal residences.

This section is divided into three subsections that capture the justifications and motives of enclave living in selected categories of premium enclaves in Lagos. That is, the VGC (private enclave), Banana Island (federal government enclave), and Magodo GRA and Omole Phase II (state government enclaves). The empirical analysis is done under three dominant themes:

(urban) security and safety, organized physical environment, and infrastructure experience and perception.

5.1.1 (urban) security and safety

Empirical analyses strongly establish that the most dominant factor sustaining interest in enclaving across urban Lagos is the quest for security and safety. Although infrastructure availability is also a key factor, it is of secondary consideration given that some residents had previously settled in parts of the Lagos metropolis due to relatively available and accessible infrastructure services. Residents in this category opted for a secured enclave given the threat posed by insecurity to families and properties. A VGC resident explains that:

> We became residents here simply because we were looking for security. We had a home somewhere else, and unfortunately, there was an attack on the house. I was away in Abuja; there was an armed robbery attack, and my wife got seriously injured in the process of running up and down the stairs in the house. As far as we were concerned, we had built that house, and that was where we hoped to make our home. However, we had to begin to rethink because the issue of security became a problem, and therefore we started looking around for a gated community. (Interviewee 20)

Other interviewees also emphasised that the VGC offers a high level of safety and privacy, noting that the Lagos metropolitan area is congested and offers a minor degree of safety and security to residents (Interviewees 17, 20). The residential enclave has movement checks in place: secured entry and exit points and a designated entrance for visitors who must obtain a tag upon confirmation from their host before accessing the enclave. Specifically, interviewee 16 notes that “the experience of living in VGC is quite different in many ways. You feel safe and safer than when you are living in other places. Looking at the density of development, it is not so dense. You have your privacy, you have your safety”. However, the centrally-organised security system is at the expense of the residents.

Comparatively, security and safety are also the main motives for interest in the Banana Island enclave. However, in this case, the standard is higher. There are rules, regulations and strict security arrangements restricting access into the enclave. The regulation of movement in and out of the enclave (for pedestrians and vehicles) is enforced at checkpoints by security personnel employed by the management company (see plate 5.1 below). Visitors are also cleared for entry and exit at the two checkpoints. Interviewee 33 notes that:

> ... for the residents, you can choose to go out anytime you want, you know, see your people, see your friends... but it is coming into that enclave that may be a problem. So, people have that perception that it is difficult to see their loved ones that are living in a particular enclave, then they may term it otherwise that there is no free access to visit the person.

Notwithstanding the above narrative, the researcher can state from experience that the reality of accessibility into the Banana Island enclave is such that, even when the visitor has the right codes or clearance for entry, there is still a possibility of being denied access to the enclave unless the host shows up at the security checkpoint. In recent times, the Island has been expanded through sand-filling activities to accommodate the demand for land. Interviewee 33 notes that the physical expansion is partly due to its record of safety, serenity and ambience.

Plate 5.1: Vehicular check/control at Banana Island's main entrance. (Source: author, 2020)

The last two case study (government-owned) enclaves show a similar motive of security and safety but with an underlying historical perspective. Despite being developed for high-ranking civil servants by the Lagos state government, Omole Phase II and Magodo GRA are choice residential areas for people in the high socioeconomic cadre. The primary attraction is security. Historical analysis establishes that as Lagos experienced rapid urban population growth, theft and robbery attacks became an urban issue. Over the years, the available infrastructure facilities had to be protected from burglars and vandals. Residents, in turn, responded to the need for protected residential spaces offered by enclaves. State government

enclaves (such as Omole Phases I and II and Magodo GRA) thus became choice enclaved destinations for affluent residents across the metropolis. Over time, the concept of secured enclaves with functional infrastructure services became widespread. In addition, low-income residential areas are beginning to wall up their houses and streets owing to insecurity. The situation in Omole Phase II is captured below:

> Providing security is number one because security is a major deal in Nigeria, and we have a government that is not necessarily providing adequate security- at the national, state, or local government level. So, it is our (the Omole Phase II CDA's) responsibility to make sure that the estate is adequately secured, and that the lives and properties of residents are adequately secured. Our responsibility is to employ security companies that we believe are up to the task. Right now, we have two security companies overseeing the enclave (Omole Phase II) and we ensure that they are giving us their best. Of course, we do that bearing in mind cost constraints. It is the dues that residents are paying that provide all these, so we have to make sure that residents' contributions are being used to the best of what can provide. (Interviewee 28)

Plate 5.2: Magodo GRA II's security checkpoint for visitors – pedestrians and those coming with vehicles (Source: author, September 2020)

Like the Omole Phase II CDA, the Magodo Residents Association (MRA) also prioritises the issue of security within the enclave. The ability of the MRA to secure and control movement

activities within the enclave is a major attraction for intending high-earning residents who seek safety, security and physical in a living environment:

> I think that (security) is one major consideration for people because these enclaved spaces are relatively secure. Part of the reason is that we can control our environment, control who enters, and who does not enter, and fence around the place so you can monitor a lot of things other than places where people just drive to. I think it (the interest in Magodo GRA II) is all about the infrastructure, and the security. (Interviewee 30)

Furthermore, it is important to emphasise that across the examined case study enclaves, the procedural security conduct of visitors is quite similar. In all cases, all categories of visitors (i.e. pedestrians and vehicle owners) can access the enclaves upon the presentation of proof of invitation. The proof could be a verification call from the host (in all cases), or a code given to the visitor by the host (VGC and Banana Island).

> ...if for any reason somebody gets to the gate and their telephone refuses to work, you cannot enter. In some places like Banana Island, for example, I know they had to give me a code which I had to present. While that was going on, they said the code had expired and they had to start all over. So, a lot of times, some people say, "I don't want to come to this your enclave. The *wahala* (trouble) is too much". You go out, there is no problem but people who want to come and see you do go through some hassles. (Interview 30)

The above quote shows a complexity of accessibility likely to be experienced by a non-resident. In addition to established security protocols at the main entrance, visitors accessing the Banana Island enclave are subject to further checks and clearance at different residential zones. This is not usually the case in VGC or the state government-owned enclaves (only one clearance protocol is compulsorily undertaken at the main entrances). Also, there are transit options within the enclaves for visitors without vehicles. The options include a bus shuttle (in all cases) or using a tricycle (Magodo GRA II and Omole Phase II). Visitors driving in are expected to park at the premises of their host.

The foregoing discussions on urban safety and security as a motive for interest in Lagos urban enclaves reveal that, above other needs and aspirations connected to urban life and living, safety is non-negotiable for the current and intending residents. Today, urban enclaving in Lagos is becoming more restrictive and more investment-driven, but not housing need-driven as it was in the second republic (1979 - 1983) when the Lagos state government

prioritized public housing investment. Government build housing schemes and fences them up (Interviewee 13). By and large, the presence of an organised management structure to check and enforce development control activities makes the enclaves safe, functional and desirable for living. It is one of the driving interests, as examined in the next subsection.

5.1.2 Well-developed and regulated physical environment

The examined residential enclaves, to a significant extent, have the semblance of an organized physical environment sustained by effective development control activities. Within the Lagos context, they represent ideal living spaces that are sharply dissimilar to the characteristically disorganised metropolis (interviewee 17).

Victoria Garden City ranks among the few enclaves sustaining order and a regulated physical environment with less development density. Residents stress that the enclave also offers greenery along its well-paved roads with street lights, making it an ideal green environment. The physical order character of the VGC enclave translates to non-authorisation to develop or convert the approved use of land or buildings to any other use not approved by the Lagos physical planning ministry and vetted by the VGC development control team.

> Second, is the level of orderliness - in terms of the fact that your next-door neighbour can not just suddenly wake up tomorrow and convert his property to some other use. Development control is strictly adhered to. The moment you buy your property, even if the plot next to you was vacant, from the master plan you knew what sort of development was permitted. (Interviewee 20)

Thus, (intending) residents and property owners could identify the type of development on any vacant land around them. This *ordering* practice is not strictly enforced in other parts of the metropolis. One major reason is that given Lagos city's weak development control practice, rich property owners and developers offer to bribe relevant authorities to alter land or property use. In some instances, residential apartments in neighbourhoods are redesigned or converted into commercial or religious centres. Interviewee 26 notes that a notable consequence of this development control laxity is that it creates noise pollution and a less ideal neighbourhood experience.

The case of Banana Island Island is very similar to that of the VGC captured above. The BIPORAL's physical planning team ensures order and functionality in the enclave for its

wealthy residents. Thus, prospective residents or property owners must be willing and able to meet the financial obligations of residency (Interviewee 33). Such monetary obligations are invested in making the enclave safe, serene and functional (see plate 5.3 below). However, the infrastructure in Banana Island had been laid out or constructed such that residents only had/have to connect to them to access such infrastructure or service.

> Banana Island? They are privileged because the road system was built before they came in. What you find in those state government enclaves is that they build the roads as they grow, but in Banana Island, the infrastructure was already laid out. (Interviewee 21)

Today, Banana Island has the standard infrastructure and utilities like underground electrical systems (different from the overhead connection noticeable across the streets of Lagos), an underground water system, a central sewage system, and treatment plant, satellite telecommunications networks, and street lighting.

Plate 5.3: A view of greenery along a major road in one of the residential zones of Banana Island. (Source: author, 2021)

Although created by the Lagos government through the New Town Development Authority (NTDA), the development and regulation of the physical environment in Omole

Phase II and Magodo GRA II are not as efficient as in the aforementioned case studies. This is partly because of funding issues on the part of the agency. Interviewee (28) notes that

> So, basically, we are to oversee the enclave by making sure that our residents and environment are well taken care of, make sure that we are raising dues... of course, you know we need to have finances to run the estate, and that is in terms of orderliness and infrastructure; providing security, providing welfare to the residents. So, all those are part of the responsibility of the CDA.

Thus, the enclaves' residents' associations step in to carry out physical development and regulation activities to sustain the functionality and ambience of their enclave environment (Interviewees 5, 21, 25, 31). Despite this, the physical environment in the two state-owned enclaves is better organised and regulated in terms of their development activities than in other parts of the Lagos metropolis. It is because, among other activities, development control is enforced by the responsible government agency/department. Overall, residents' perception and or experiences concerning infrastructure and residency in the case study enclaves slightly varies from one enclave to another, as explored in the next subsection.

5.1.3 Infrastructure experience and perceptions

In addition to urban safety and security, and the desire to live in a regulated physical environment, the need for a better infrastructure experience also drives the interest in Lagos premium enclaves. Although the services are at their expense, residents are willing and able to pay, and more people are also showing interest in the enclaves. Interviewee 10 notes that "understandably, the rich want security, they want infrastructure. Those are the things that they seek". Along this line of argument, there is usually a comparison of infrastructure experience between enclave residents and other residents of the larger Lagos metropolis. For instance:

> You will see that the road network is fantastic. If you come (to Banana Island) at night, the street lights are superb. They are well-maintained, and they come on as and when they need to come on. For most people that live here, their area of networking is just within the Island. So, in terms of the maintenance of your vehicle, it is next to nothing. You do not have to worry about changing your shock absorbers or changing the arm of your vehicle, things like that that people on the mainland suffer because their road network is bad. (Interviewee 33)

Buttressing the foregoing narratives, interviewee 30 (who lives in one of the state-owned enclaves) notes that "some of the things that you really enjoy living in this enclave are

infrastructure in terms of roads that are tarred, drainage, and there is reasonably laid out physical planning layout". Asides from the relatively positive infrastructure reality, there is an emphasis on a positive attitude within the enclave to sustain the infrastructure experience. It is such that no resident is a threat to another – directly or indirectly (Interviewees 16, 17, 26). For instance, interviewee 20 notes that:

> But here (in VGC), at least, you know there will be a reasonable level of decorum. The man living next to me, maybe who knows Dangote... But the fact is that he will have to live within the regulations of the enclave. He can not start blaring his horn because he has been given the enclave rules: no horns except if it is an emergency. There is a speed limit, he cannot drive his car at a reckless speed down the road and endanger my life. I will make a report to the management office and he will be sanctioned. So, that level of a decent environment is the key thing for me.

The above quote translates to the fact that adequate infrastructure, efficient management of the physical environment, and a positive attitude among residents promote better living experiences. As an illustration, when enclave residents pay their service charges promptly, the sewage and water supply systems that connect to all residencies are properly maintained. In turn, several healthcare issues are avoided or eliminated. So far, the foregoing analyses show how the quest for urban safety and better community experience sustains the interest in enclave living. This outcome is also partly influenced by the congestion and dysfunction across the metropolis.

Instructively, analyses of the experiences of residents across the examined enclaves show that there is, by and large, a relatively high level of security and safety of lives and properties, an organised physical environment and positive infrastructure experiences compared to other parts of the Lagos metropolis. However, the high cost of land/rent and payments for relatively functional infrastructure services and established physical order (in terms of development and building control) make premium enclaves only within reach of the high-income class. Moreso, Lagos' demographic characteristics continuously trigger the splintering of its urban landscape into premium enclaves, gated communities, or the regular neighbourhood in the metropolis. This creates some physical interrelational barriers within the urban space, thereby affecting the perceptions of people concerning urban living, as captured:

> The truth is that the urban system - urbanisation itself- has reduced the contact that we used to have in the old settlement where there is a concern for the neighbour and where you can easily see yourself. You will find that security has become such an issue that

> we even wall up ourselves. So, how much contact do you have with those who live in the same estate as you? You rarely see your neighbour until you get on the road. (Interviewee 21)

Consequently, the element of *population growth* is a grounding factor influencing the interest in urban enclaving in the Lagos context. It produces forces (desires) for safety/security, a well-controlled neighbourhood or community where physical development is regulated, and a proper management approach towards community living. Conclusively, beyond the motives/justification narratives, there is a need to assess the realities and manifestations of infrastructure provision and management in these enclaves to understand the roles of individuals, groups, and the government in infrastructure outcomes concerning funding, development, and management. The following section examines these issues.

5.2 Infrastructure provision and management approach

As explored in the contextual chapter, the provision and management of basic infrastructures such as water supply, electricity, transportation and sewage management in Lagos are key responsibilities shared among the federal (in the case of rail transportation), state or local government (or the local council development areas). It translates that infrastructure provision is the social responsibility of the tiers of government, and this "implicitly denies or minimises private sector participation... and thus (infrastructure) are viewed as services provided largely for a social motive in terms of fulfilling the needs of a specific segment of the population rather than for economic motive" (Olukoju, 2003; p. 13). In some cases, there is a collaboration between the Lagos state government and the private sector(s). The goal is to ensure physical and social order, enhance efficient circulation, and promote physical and economic safety.

Since infrastructure (provision and management) is essential to ensuring the sociophysical survival of cities, its diversity of networks and links among (other) city components must be understood and explained to capture existing interdependencies or otherwise (Pflieger & Rozenblat, 2010). These components (such as people, units/places, buildings and formations that keep the urban space functioning as a system through interactions, dependencies and interdependencies) define cohesion and boundaries. In this regard, this subsection examines the realities of the provision and integration of transport, sewage and

electricity infrastructures within the enclave spaces of Lagos. This assessment also investigates their dependencies (or not) with the rest of urban Lagos.

Despite the ministry for physical planning and urban development, Lagos has failed to address urban fragmentation and splintering infrastructures from the perspective of actors involved in the production of urban enclaves. It makes it worthwhile to investigate such manifestations in-depth. In the three subsections that follow, this study examines the enclaves' governance and management, outcomes of infrastructure provision and management, and the lessons and conclusions from findings based on urban planning perspectives.

5.2.1 Governance and management of enclaves

The assessment of the management and governance of enclaves across Lagos shows quite similar approaches, regardless of ownership status (state/federal government or private development initiatives). However, there are notable differences concerning their structure and management approaches. The VGC private enclave is characterised by a two-pronged management approach. There is a Victoria Garden City Property Owners and Residents Association (VGCPORA) that oversees the governance affairs of the enclave. Also, there is the VGC management company. The management company is located in the enclave, with different departments such as road maintenance/construction, operations and management, water supply, waste management, gardens, etc., carrying out various functions to ensure order, cleanliness, and functionality. The management company enforces strict development control procedures to ensure developers do not deviate from or alter approved plans:

> The mantra has always been "Paradise by the Lagoon" … VGC is a very well-structured [well-planned physical environment with controlled entrances and sports/recreational centres]. It is a very well-regulated residential estate, with strict policies about doing commercial activities within the residential estate. (Interviewee 15)

The governance and management of the Banana Island enclave have a relatively similar administrative structure to the VGC. However, in this case, there is an administrative *merger*. Elected residents govern and oversee its administration through BIPORAL, employing personnel in departments to assist with various duties. Primarily, BIPORAL is internally funded through dues (plate 5.4 below shows its administrative building). Other sources of revenue include honorary donations, violation fines, and dues paid by operators of heavy machinery and construction equipment (Interviewee 33).

Plate 5.4: BIPORAL administrative building in Ikoyi, Lagos. (Source: author)

The state government enclaves (Omole Phase II and Magodo GRA) have residents' associations like the other GRAs in Lagos. The elected executives are responsible for governance, management, and development decisions such as security, enforcement of development charges/levies, road and drainage construction, street lighting projects, etc.:

> In the *Community Development Association (CDA),* we have an executive committee made up of the chairman, vice-chairman, general secretary, assistant general secretary and other officers. We have a board of trustees (an advisory committee) mainly made up of former chairmen and elders in the community, and then we have committees: security, project, environmental, advisory, financial, audit and finance. So basically, we have people in different roles to oversee the general functioning of the enclave. We have our constitution that has the role that each of these (committees) is to perform. (Interviewee 28)

The organisational structure of Omole Phase II is further extended into zones headed by a zonal coordinator and assisted by street representatives (depending on the number of streets in a zone). Current CDA executives instituted the zonal structure arrangement. The zones are grouped according to the road network connections, making oversight function easier. There are nine zones, and a tenth zone is in the plan. They present project proposals to the central

CDA, and a project committee vets such proposals. Beyond the zones, a board of trustees provides parochial roles such as making security decisions for the enclave.

The governance and management structure in Magodo GRA is similar to the above. In addition to a centrally governed Magodo Residents' Association (MRA), the enclave is divided into twenty-one (21) zones for effective governance and coordination. Each zone comprises several streets, and its executives, like the central association, make management decisions. In some instances, they revert to the MRA for assistance.

> Each zone is responsible for the management of its infrastructures and everything that has to do with them except security incursion. Each zone has a security secretary who looks after the security of the zone but the centre can go to any zone if there is any breach beyond its capacity. At the centre (MRA), we have the chairman, the vice-chairman, the project secretary, the security secretary, and the environment secretary. Though the government makes provisions for people providing waste services, we coordinate and liaise with them to pay for the waste removal. So, for every area of life, we have somebody in charge. For instance, the project secretary is in charge of road infrastructure and the maintenance of the roads. (Interviewee 31)

There is a chairman, the vice-chairman, the project secretary, the security secretary, the environment secretary, and others whose offices reflect their duties at the centre. For instance, the environment secretary takes care of the general environment, including the disposal of waste.

Instructively, the examined case study enclaves (so far) get their development approvals from the Lagos State Ministry of Physical Planning and Urban Development (MPPUD), despite the proposal being checked for compliance by their respective management organisations. That is, Magodo GRA II, Omole Phase II, and the VGC get their land and physical development proposal approvals from the MPPUD. However, Banana Island's ownership status (by the federal government of Nigeria) defines its institutional link with the Federal Ministry of Works and Housing (FMWH) and the MPPUD. The FMWH regulates and coordinates physical development in the enclave. Also, given that the enclave situates within the Lagos state territory, MPPUD approves development proposals within the enclave. That is, the Federal Ministry of Works and Housing regulates and coordinates land development activities within the enclave (such as land expansion/reclamation activities, and percentage allocations for different land uses), while the MPPUD simply approves development proposals on such lands. Additionally, there is a multi-level approval procedure for any intending property owner. BIPORAL carries out a pre-approval (vetting) through a compliance team. Afterwards, the

development application is presented to Lagos' physical planning ministry which approves the proposed development if there are no issues. Notably, the ministry hardly rejects a development application vetted by the BIPORAL planning team. The enclave management also relates with other agencies and parastatals in the state, such as the Lagos State Building Control Agency (LASBCA) and the Lagos Material Testing Laboratory.

The preceding narratives show that the privately developed and federal government enclaves are more organized and professionalised, given that they have structured organisations (the VGC management company and BIPORAL) for their management and administration. Thus, they require less self-governance from their residents than state government enclaves (GRAs) - premised on comparing their context-specific insights regarding governance and management. This argument is based on the existence of management organizations to oversee development and maintenance against elected executives among the resident taking charge of development and management - through Community Development Associations (CDAs) in GRAs. In light of the preceding insights, empirical appraisals of these enclaves' infrastructure provision and administration realities must be considered. It advances the understanding of infrastructure outcomes, as examined in the next subsection.

5.2.2 Infrastructure financing, provision and management across the enclaves

Basically, infrastructure provision and management are capital-intensive initiatives. It drives city administrators and governments across the world to explore different funding options to meet demands (Carmona, 2010). Across cities of Sub-Saharan Africa, available infrastructure funding options are either by the government, through a public-private partnership, or by private initiatives. Notably, many recent emerging premium enclaves across SSA have adopted private infrastructure funding initiatives (Watson, 2014). In this sub-section, the realities of infrastructure development/management and financing in the case study enclaves are examined. There is a common scenario of private funding and management approaches for infrastructure.

Infrastructure financing and provision in the VGC are the responsibility of the residents through the VGC management company. Residents pay annual dues to fund the enclave's infrastructure provision and maintenance budget. An effective Preventive and Maintenance Plan (PMP – which represents a series of scheduled procedures and activities to maintain and

or repair infrastructure and services) is one of the strategies to avert challenges that may affect the enclave's relatively functional infrastructure system. This planned approach ensures that infrastructure services are not interrupted and that there is continuous supply (as it applies). VGM (2019) clarifies that:

> "What we have is PMP (Preventive and Maintenance Plan). It used to be done by HFP, who owned the deed of the sublease. However, it is now done by the operations and management office. The VGC water services, we tell them what has to be replaced… then, from internal arrangements, our drainages get cleaned twice a year, and we maintain that periodically."

Banana Island, like the VGC, has a private infrastructure provision and management approach funded through an internal arrangement overseen by BIPORAL. The premium Island was developed as a site and service enclave with basic infrastructures (such as an electrical power substation, a central water plant and a central sewage plant). These amenities were provided with the intent that the enclave function optimally, avoiding the inefficiencies of the general city services.

Omole Phase II and Magodo GRA share similarities in their infrastructure provision and management approach in light of their ownership status. However, they are not exactly similar in the context of their realities. The residents in Omole Phase II adopt self-provision in infrastructure financing and management, which covers basic infrastructure and services such as road maintenance, electricity connection, and street lights installation:

> I think most of the maintenance is done by the people themselves. Government GRAs are like orphans, (government) creates them [the GRAs developed by the Lagos state government through the New Towns Development Authority] and stays off [does not actively invest in infrastructure]. As residents, we make annual contributions to maintain the infrastructure if they are not major (maintenance). When they are major, we may have to hold meetings and observe that those are capital projects (such as road rehabilitation) to which we may have to contribute. Nobody waits for the government anymore. (Interviewee 21)

The MRA takes charge of physical development and infrastructure issues in Magodo GRA II through financial contributions from members. Residents pay different levies for various development projects like road construction, drainage construction/maintenance, construction of street lights, and electricity supply. Interviewee 30 notes that while there were occasions

where individuals assist the residents' association, the majority of funding for infrastructure development and maintenance projects comes from residents' contributions. Across the board, the analysis of infrastructure provision and functionality is done under four infrastructure categories: road infrastructure, water supply, electricity and sewage.

Plate 5.5: VGC- Lekki/Epe expressway intersection (note the traffic light on the green). (source: https://ng.worldorgs.com/catalog/lagos/corporate-office/vgcwelcomecenter).

Road Infrastructure

VGC has a well-designed and connected road network, paved and fitted with street lights. The road network is built by the enclave's developer and is adequately integrated into the Lekki-Epe expressway such that vehicles accessing the enclave do not create traffic obstructions or interruptions. It is ensured by a traffic light system at the intersection where the enclave connects to the Lekki-Epe expressway, as shown in plate 5.5 above.

The transport network in the Banana Island enclave is largely road-based. However, some residents have private arrangements for boats. There was a previous security arrangement for a patrol boat to protect the shoreline. The arrangement has been terminated after security appraisals by the concerned stakeholders. The construction and maintenance of roads is an internally funded arrangement overseen by BIPORAL through the roads and infrastructure

committee (a sub-committee). Its functions include negotiations with contractors and overseeing roads and other infrastructure issues within the enclave. In recent times, the federal government does not play an active role in constructing, repairing, and/or maintaining infrastructure in the enclave. However, as earlier noted, the FMWH transfers operations right to the enclave's management. Thus, the repair, maintenance and management of facilities are a major responsibility of BIPORAL.

The assessment of road infrastructure provision and management in Omole Phase II shows that the NTDA executed the enclave's layout and constructed tarred roads to connect different parts. Over time, the agency relaxed in its project execution activities. Interviewees (21 and 28) note that, in some instances, the NTDA did not complete some of the (road) infrastructure projects they had started. Over the years, the CDA has collaborated with the residents to complete and construct other road networks and undertake street lights and drainage construction. Empirical findings also establish that the enclave management has embarked on a CCTV deployment across streets to improve security infrastructure. On a few occasions, there have been road repairs and or construction within the enclave through a CSR (Corporate Social Responsibility) initiative by some private organisations.

Plate 5.6: An untarred street in Omole Phase II (Source: Author, September 2020)

Moreover, at the time of field research for this study, the NTDA is working on five road projects it had pledged to execute for the enclave. The ongoing road work results from several appeals to the Lagos state government by the residents through the CDA. Notwithstanding the residents' efforts to self-provision basic functional amenities, some roads in Omole Phase II are yet to be tarred (see plate 5.6 above). In addition, some of the streets do not have street lighting. It contradicts the supposed intent of establishing state government residential enclaves in Lagos, designed to have infrastructures such as water, a good road network, street lights and drainages. Consequently, residents have resorted to outright self-provision: "We discovered we needed street lights, which will improve security. Of course, we contributed and did the street lights by ourselves. So, generally, it is contributory for now. The residents built the drains on my street" (Interviewee 21).

The construction and maintenance of the road networks in Magodo GRA have been a shared responsibility between the state government and the Magodo Residents' Association. The Lagos state government, through the NTDA, prepared the enclaves' layout and constructed about 80% of the road network, including those connecting the enclave to the Lagos metropolis. Over time, the construction and maintenance of roads have become the responsibility of the residents through the residents' association (Interviewee 30). Interviewee (18) notes that residents pay the sum of N300,000 (around $725) as road construction charges when moving into the enclave.

Plate 5.7: Magodo GRA Phase II main entrance (for residents only), Bashiru Shittu road. (source: author, 2019).

Specifically, in the last decade, the different zones in the enclave have been in charge of road construction and maintenance through financial contributions from members (Interviewee 31). In this period, statistics from the MRA show that residents undertook about 70% of road construction and maintenance activities in the enclaves. The enclave connects to the larger Lagos metropolis at two intersections: the Bashiru Shittu road main gate (plate 5.7 above) and the Shangisha gate. By and large, the foregoing assessment of road infrastructure provision and management shows that there are variations in road quality across the enclaves. The availability of funds and institutional laxity (especially on the part of the state-owned enclaves) are major issues affecting road infrastructure standards.

Water supply

The water supply and distribution service in the VGC is privately organised by the management company. There is a water plant built and managed by the enclave which processes and pumps potable water to all houses (Interviewees 15, 16). The water supply is metered such that the residents pay monthly per volume of water consumed but at a premium price.

> We have a water plant in the estate that processes and pumps water to all the houses. The water supply is metered, so you pay per volume of water consumed. You get a bill every month and you pay for your water but it is clean potable water, straight from the tap. You pay at a premium price. (Interviewee 17)

The above narrative is corroborated by interviewee 15, noting that the water supply in the enclave is independent of the Lagos state water supply service.

The water distribution service in Banana Island is similar to the case of the VGC. However, the water plant, like other facilities, was initially not in use. The neglect was attributed to a self-provisioning mentality developed as an escape strategy to beat service interruptions and inefficiencies (Interviewee 10). The present reality differs, as shown in the case of the water plant:

> A lot of people realised that there is a water treatment plant here. We then approached the federal minister. We needed them to hand over that facility to the association so that we would take it up and manage it. So, they (the federal government) did the remedial works and handed it over to the estate, and we started running it. We had a lot of teething problems initially, like trying to get the right person (a vendor that will run it). The

> facility had been grounded for a while. We needed to change many things, including the pipings that were rusting. Those were the initial issues we had when we got the plant to become functional. As the day goes by, we are trying to stabilise it and make the service optimum so that people can enjoy it. (Interviewee 33)

The enclave currently runs an efficient water supply system for its residents. The water plant is periodically serviced and maintained to avert disruption in water supply services.

Residents in Omole Phase II and Magodo GRA II have similar experiences concerning water supply and distribution services. Despite having a water substation built and run by the Lagos Water Corporation (LWC), residents still opt for other supply options due to service inefficiency. For instance, the supply of water from the substation in Omole Phase II is not reliable as it rarely pumps water for residents connected to its supply system. Consequently, private boreholes and local water vendors serve as alternatives to ensure water availability.

> Before I did my borehole, I was on the Lagos state supply, but you know that at times, it switches off. So, you do not have water for days. Then, you have to call *mallams* (local water vendors). We have them around for those houses that are not connected to boreholes. But we have Lagos state pipes running through the estate. We have them supplying water to the areas that are on their system. (Interviewee 28)

In the case of Magodo GRA II, residents complain that the water station constructed by the government rarely functions. Interviewee 18 narrates the reality of water supply in the enclave, noting that "I don't want to put full weight on that. Yes, they will tell you they brought water. No water! They laid pipes and tell you they have one substation there. Does it pump water? Most people here use boreholes". Consequently, residents have, in turn, fallen back on boreholes for the supply of potable water. Thus, the unreliability of water supply from the substations owned by the LWC in the state owned-enclaves results in the adoption of self-help strategies by residents. Across the board, the borehole remains the most common option for water supply, given that some residences in Banana Island and VGC have boreholes in their compound as a backup for the central supply network (Interviewees 15, 17, 26).

Electricity

The generation and supply of electricity in VGC is through the Eko Electric Distribution Company (EKEDC). Payment is based on the consumption rate per kilowatt-hour. VGC's tariff

rate for electricity consumption is R3 (which is over N30, as against the standard fee of less than N21 for consumption per kilowatt-hour). Although the power supply is out of the control of the VGCMC, they liaise with the DISCO for (power) infrastructure maintenance. The enclave's electricity is supplied directly from a 33KV line into a substation (a 15-heavy injection substation built with residents' funds). The demand and supply issues concerning electricity in the enclave necessitate the consideration of investment in an alternative power source. The quality, reliability, and availability of electric power from the grid have dropped significantly over the past two years (Interviewee 15, 20). Thus, it is projected that an independent power supply curbs reliance on the electricity distribution company (EKEDC) service and possibly eradicates power supply interruptions, as noted:

> Our meeting is tomorrow (Saturday, 29 June 2019), and we are looking at options. DISCOs (Electricity Distribution Companies) are going to be there. They are going to play an important role, but we are going to look at doing back-ups as alternatives when GENCOs (Electricity Generating Companies) or DISCOs cannot supply power. Then we will look at how we/what we do. And there are a lot of options open to us. (Interviewee 15)

The plan for an alternative power source premises on the assumption that a power supply off the grid provides a better option for the enclave. In the case of service interruption, residents resort to self-generation. Each residence invests in (at least) a power generator as an alternative source.

Although there had been initial plans for an independent power plant, Banana Island adopts a premium electricity supply arrangement with the EKEDC. The service arrangement translates into a supply of electric power directly from the Alagbon substation (operated by the EKEDC) into the Banana Island power station through two dedicated lines. The electric power is then distributed to different parts of the enclave.

> We have a regular supply of power (over 20 hours per day). Let me just say an average of 96/97 per cent power supply, sometimes 98 per cent. In fact, in some years, it was almost 100 per cent. So, if you have a 96-98 per cent supply of power, what is the essence of an IPP (Independent Power Project)? As I said, we have tried it before, but many residents kicked against it, and it is not a priority because they could augment whatever balance of the percentage supply with their generators or inverters. (Interviewee 33)

In addition, residents pay a higher tariff for prime customer subscriptions to EKEDC. The enclave is categorised under the metro rating in the band/category of customers. BIPORAL notes that the payment plan is based on the Band A category, calculated at N56.94 per kilowatt hour (as of 2020/2021).

Electric power service in Omole Phase II is provided by the Ikeja Electric (IE) Disco [formerly known as Ikeja Electric Distribution Company (IKEDC)]. The Disco's headquarters is located a few kilometres from the enclave, thereby granting residents easy access to the repair and maintenance department when issues arise. Like most premium enclaves in Lagos, Omole Phase II has a premium service arrangement with the Ikeja Disco. Residents submit that the premium service scheme was signed after assessing the proposed rate against what is paid in other parts of the Lagos metropolis. In the premium service agreement, the Disco is obligated to provide a guaranteed minimum hours of power supply (20 hours) per day. On their part, the enclave residents pay a premium rate (N47) per kilowatt-hour supply. Respondents agree that since the inception of the premium agreement, the enclave has recorded a 90% service efficiency rating with no less than 20 hours of daily power supply. Across the board, the Disco supplies at least 720 hours of electricity per month to Omole Phase II and Magodo GRA. Inaccurate billing or charges are averted as every house in the enclave is metred, ensuring that power consumption per household is accurately captured.

The electric power supply in Magodo GRA is through the Ikeja Electric (IE) Disco. Like the case of Omole Phase II, Magodo GRA also has a prime customer agreement with the Disco, guaranteeing the enclave at least 18 - 20 hours of electric power supply daily. Some attempts by the enclave to invest in independent power generation failed due to cost and logistics concerns (Interviewee 31). Subsequently, there is a reconsideration that a premium supply agreement is cheaper and less tasking for the enclave. Hence, the decision to sign an agreement with Ikeja Disco. The premium agreement with Ikeja Disco has drastically reduced the use of power generators within the enclave. There are days when the power supply is available for up to 23 hours. The premium service charge per kilowatt-hour of supply is N47. This rate is below the official N53 kw/h for the Band A category (Interviewee 27). However, a new official rate of N56.70k has been adopted for the enclaves effective November 2021 as directed by the electricity regulatory commission (Interviewees 18, 27, 31).

The foregoing analyses of electricity supply service outcomes reveal that, across the board, the enclaves largely depend on the central grid but with a premium payment plan. Although the premium agreement comes with a certain level of guarantee of supply to the

residents, enclave residents pay more compared to other parts of the Lagos metropolis. However, the challenges of interruption and speculated overpricing concerning demand and supply continue to exist. Consequently, residents consider the possibility of investment in an alternative power source, i.e. an Independent Power Plant (IPP). The modalities and funding of the IPP present some administrative encumbrance. The last infrastructure to be assessed is sewage.

Sewage

A further assessment of infrastructure in the VGC reveals the absence of a central sewage system. Houses have soakaway septic tank systems. Residents have to contract private operators for repairs and evacuation. In the case of Banana Island, the enclave has three central sewage plants serving all houses in its residential zones. A sewage plant also serves the enclave's mixed-use zone, bringing the total number of its sewage plant to four. BIPORAL contracts the running of the sewage plants to a private company. The company takes charge of operations, maintenance, and evacuation services and is financed from funds contributed by the residents. The decision to operate the sewage plants is adopted given the cost efficiency of running a centrally located sewage system against individual soakaway systems. New residents are connected to the sewage network upon indication of interest.

There is no central sewage system in the Omole Phase II enclave. Each house/building has a septic tank or soakaway system, and the occupants are responsible for fixing the issues through a private sewage company or worker. However, centralised solid waste management in the enclave is operated by a waste company. This arrangement entails the collection of waste on certain days of the week while residents make their payments at specific intervals. The reality of sewage management in Magodo GRA is similar to that of Omole Phase II, with each residence operating a septic tank/soakaway system. There had been a failed proposal for a central sewage system to the government (Interviewee 18).

Summarily, the assessment of sewage infrastructure presents some varying realities. Banana Island's central sewage management system plants set it apart from the VGC and the state-owned enclaves in terms of infrastructure services. Conclusively, there are arguments and lessons for consideration concerning the outcomes of empirical analyses for all infrastructure outcomes and cases so far examined. These are discussed in the following subsection.

5.2.3 Assessment of outcomes and lessons on infrastructure provision and management approach in Lagos

Empirical findings from the above analyses show that while residents of premium enclaves in Lagos resort to a certain degree of self-provision concerning infrastructure and services, it is also true that infrastructure services are inadequate in some of the enclaves. In this case, the *inadequacy* is defined in terms of some existing untarred roads requiring more financial contributions; the short power supply interruption despite the premium service agreement, and the need to invest in central sewage systems. However, the existing services are better in comparison to the rest of Lagos where residents battle with erratic power supply services, dilapidated road networks and poor management of sewage services. A causal effect of this outcome is that enclave residents are usually faced with providing and or maintaining infrastructure services within their space to beat inefficiencies and interruptions. While it is difficult to determine the frequency of the need for infrastructure service repair or maintenance, residents have scheduled payment plans for different infrastructures/services. Also, there are occasional demands for payments in the event of an infrastructure emergency. Thus, it is not uncommon for residents to need to pay *more* to provide or upgrade these services. It implies that the failure of the Lagos government to invest in functional and connected infrastructure services across its urban space also manifests in these premium enclaves. It is notwithstanding the privileged socioeconomic status of their residents.

The *self-provisioning* realities for infrastructure in the enclaves have some similarities with what obtains in the general Lagos metropolis/among the ordinary residents. For instance, to address issues of infrastructure inadequacy or inefficiency, there are occasional financial obligations and administrative volunteering among non-enclave residents in the metropolis. Residents organise themselves to contribute financially towards infrastructure projects such as new electric poles, transformers or road tarring. There are usually volunteers who form committees to see to the execution of such projects (Interviewees 26, 34, 35). Also, in both contexts, security arrangements are joint responsibilities among the residents. In some parts of the larger metropolis, there are organised local security outfits employed to secure residences/neighbourhoods. They are paid through monthly contributions for such services. However, there are notable differences in the self-provisioning and governance approaches and structures. Table 5.1 below shows that across the board, residents are involved in very different capacities in the management and provisioning of infrastructure services.

Comparative Assessment of Management and Self-Provisioning of Infrastructure in Lagos		
S/N Indices	**Premium Enclaves**	**Regular Neighbourhoods/Gated Communities**
1. Governance/ Management structure	Management and governance are executed through professionalised management organisations (e.g. VGCMC and BIPORAL) or organised resident associations recognised by the state government (e.g. Omole CDA and MRA). The management team is bound by the constitution recognised by the government.	Management and governance are through self-formed committees that are largely not recognised by the government. The committees are created to address key infrastructure issues and seize to exist after their tasks. In the regular gated communities, the committees are usually tenured but are not recognised by the government.
2. Infrastructure funding approach	Infrastructure is funded through financial contributions to the central account. Residents pay monthly and or yearly charges for infrastructure service maintenance and or construction.	Residents come together to contribute towards the repair, maintenance or construction of infrastructure as the need arises.
3. Infrastructure provision reality	Relatively standard/functional infrastructure and services (e.g. road network). There are premium agreements for some services (e.g. electricity supply). Water supply is centralized and communally distributed. However, residents have private boreholes as a backup when/if the central supply fails.	Relatively sub-standard infrastructure and services. Self-help strategies are common across the neighbourhoods e.g. private generators for electricity provision due to erratic supply from the Discos and construction of wells or boreholes to meet water supply demands. However, some parts of the metropolis are connected to the water supply network of the LWC but the supply service is erratic.
4. Institutional Link	The management team usually have institutional affiliations with relevant government ministries, departments or agencies. This is possible because some top government officials have their private residences in some of these enclaves.	Committees would usually write to request support from the concerned government ministries, departments or agencies as the situation dictates.
5. Physical planning and development control approach	Usually, there is a physical planning/development committee/team that vets development proposals before forwarding	Physical planning and development control is by the concerned ministry, department or agency. Individuals approach the concerned

	them to the concerned ministry, department or agency. The committee may intervene in the event of an issue. Development control is by the MPPUD through the relevant agency. Banana Island has a bi-institutional reality concerning the regulation and control of physical development.	government ministry, department or agency to get approval for physical development proposals.

Table 5.1: Comparative assessment of management and infrastructure provision approach. (Source: Author, 2023)

From table 5.1 above, there are similar patterns in the self-provisioning approach. For instance, from outright self-provisioning of water through wells or private boreholes as in the case of regular neighbourhoods or gated communities, to a communal solution (through a professionalised self-governance system) by a water treatment plant in the cases of the premium enclaves. By and large, the people pay by themselves. In contrast, the management associations/organisations of the premium enclaves are better organised and employ members of staff who are on their payrolls. Elected officials are bound by constitutions that are recognised by the government (Interviewees 15, 16, 28, 31).

> I do know that constitution-wise, we (Omole Phase II and Magodo GRA) are under the same constitution. So, in terms of the set-up of the CDA, it should be the same because there is a constitution in place by the Lagos state government on how your CDA should be structured: how many officers you should have under the exco, the positions, the committees that should be in place, and the zonal arrangements. (Interviewee 28)

In addition, there are also various tenured committees responsible for the different infrastructure or services within their enclaves. Moreso, the premium enclaves are secured by formal security outfits contracted by the respective enclaves.

Instructively, the central ideas connected to infrastructure provision and management in the enclaves are the quest for urban safety and infrastructure stability. This study explains infrastructure stability as the continuous availability or supply of infrastructure service with a very reduced or barest minimum level of interruptions. Although there is a resultant fragmentation and variation of infrastructure experience across the urban scape of Lagos, enclave residents are keen on a safe urban environment with better city infrastructure experience, even by adopting self-funding. Moreover, there seem to be dwindling expectations

of the government's intervention concerning infrastructure upgrades. The state of infrastructure services in the state-owned enclaves buttresses these arguments.

A comparative assessment of infrastructure financing, provision, and management outcomes in the enclave (as presented in table 5.2 below) shows that Banana Island has better infrastructure and service quality than other examined enclaves. Although Banana Island has a closely similar infrastructure profile to the VGC, it has centrally located sewage plants. However, both enclaves have better infrastructure services than the two state-owned enclaves. Despite that the enclaves were developed by the NTDA with templates and projections for infrastructure and service provision, they grapple with infrastructure issues such as road construction and maintenance, the absence of central sewage systems, and the increasingly erratic supply of water from their water plants. Nonetheless, the Magodo GRA has better infrastructure services than Omole Phase II when their infrastructure profiles are compared. It is in terms of the coverage of road construction and the water supply from the water plants. Notably, there have been recent infrastructure provision initiatives by the NTDA in both enclaves. The focus of such intervention is essentially the construction of new roads and the repair of existing dilapidated ones.

S/No.	**Name of Enclave**	**Ownership / Developer**	**Management Company**	**Infra Funding**	**Electric Power Service**	**Road Construction and Street lighting**	**Water supply**	**Sewage system**
1.	Banana Island	The federal government of Nigeria	BIPORAL	BIPORAL using residents' dues	EKEDC/ Over 20 hours of daily supply	Initially by FGN. The recent works are by BIPORAL	Water plant managed by BIPORAL	Four central sewage plans
2.	VGC	Private/HFP Construction	VGCPORA/ VGC Management Company	VGCPORA	EKEDC/ average of 20 hours daily supply	HFP. Recent constructions and maintenance are by VGCMC	Water plant maintained by VGCMC	Septic tanks or soakaway systems.
3.	Magodo GRA	Lagos State Government/ NTDA	MRA	The MRA uses levies/dues	IE/ average of 18 – 20 hours of daily power supply	Over 80% by the NTDA. Recent works are by the MRA.	Water plant (less than 20%); individual boreholes (about 80%).	Septic tanks or soakaway systems.

4.	Omole Phase II	Lagos State Government/ NTDA	Omole Phase II CDA	The CDA uses the residents' dues/levies	IE/ average of 20 hours daily power supply	Over 60% by the NTDA. Recent works by the CDA	Water plant (less than 10%); Individual boreholes (about 90%).	Septic tanks or soakaway systems.

Table 5.2: Infrastructure provision and management assessment across the case study enclaves. (source: author, 2022).

Across the board, the enclaves are not free from the struggles associated with snail-paced infrastructure provision and disjointed urban management approaches. As a result of this, residents question the need to pay taxes to the government (property taxes in particular) based on self-provisioning most of the infrastructure:

> Apart from the roads (constructed by developers of the estate), every single infrastructure in the estate (VGC) is (built and) managed by the residents' association. But I am still taxed by the state. The state provides no doorstep services to us. Not only that, even the property tax, we are in the high band property tax rate. We cannot be self-providing services that the state ought to be providing to our doorsteps, and then you are still taxing me as though the state was providing me with services. (Interviewee 20)

The above narrative demonstrates that the elites do not see why they need to contribute to the tax system because of the absence of state provision of infrastructure and services. Thus, while the emergence of enclaves is widely considered an escape strategy for the urban elites to beat infrastructure inadequacies, it comes with some pronounced scenarios of agitations for better involvement on the part of the government in terms of infrastructure provision and management.

A major issue from empirical analysis on infrastructure provision and management is the absence of a central sewage system in most examined enclaves. The management of wastewater generated across homes, offices, and industries is crucial for the city government to ensure a clean and healthy environment. In many advanced climes, sewage is treated in central facilities. Whereas, across Lagos (as is the case in some other African cities), sewage management has been relatively poor and unsustainable practices prevail in its management approach. Most Lagos' enclaves are no exception, as the residents take responsibility per household concerning sewage management.

Broadly speaking, there is no centralised sewage system in Lagos, except for a few places within the metropolis. In most areas, residents rely on private septic tanks or soakaway systems

and usually contact private waste operators for collection and disposal in water bodies (rivers and sea). There are consequences to such a practice:

> Everyone relies on putting their sewage into the septic tank and soakaway pits. So, we simply rely on earth filtration (allowing the ground to absorb the sewage). It is sad. We have issues with people who have not built proper sewage handling facilities within the enclave. So, it means we are constantly contaminating the groundwater. (Interviewee 17)

There are potential health implications when the discharge of untreated wastewater is directly into the drains and sustained over a long period. Within the study context. it is stressed that the level of improper management and disposal of wastewater is enough to destroy public health in urban Lagos. For instance, interviewee 20 notes that, in recent times, there have been outbreaks of cholera and incidences where many people were diagnosed with typhoid. Moreover, sewage management does not appear to be a priority consideration of the government towards building and development coordination in the state, despite being one of the city's primary sources of environmental pollution (Interviewee 13). This submission is premised upon the fact that there are no standards and quality checks for underground sewage storage (septic tanks or soakaway), common across most metropolis buildings.

Conclusively, given that the development of most of the enclaves is usually not captured in the city's plans, there are integration concerns (as explored in chapter 7). In this assessment line, some enclaves were planned with little government control and supervision regarding infrastructure planning and integration. It is a result of two reasons. First, development control and management in the city are weak and have been outpaced by the proliferation of informal and unapproved developments fuelled by a fast-growing population. The second is that the government seems to be relaxed in its role in infrastructure funding, despite the considerable revenue accrued to the state. However, the foregoing is a glimpse of issues associated with urban enclaving in Lagos. These issues are dissected and the discussion is concluded in the next section.

5.3 Reflections and conclusion: urban enclaving issues in Lagos and imperatives

Empirical analyses in the previous sections show that, across the board, the institutionalisation of enclaves in urban Lagos is sustained by the quest for safety, functionality,

organisation and better infrastructure experience. By and large, empirical evaluations show that urban enclaves in Lagos function as systems of their own instead of as sub-systems of the central urban system. It means that, to a significant extent, they can function independently without interfering with or utilising the infrastructure or service base of urban Lagos, save for transport infrastructure. The enclaves' infrastructure and service self-organisation and provision within their space validate the preceding argument. The issues associated with the empirically established infrastructure provision and management outcomes in these enclaves are broadly discussed here.

Firstly, the disjointed planning of its enclaves creates problems of connectivity in urban Lagos, which is already struggling with massive transportation issues. Focusing on the Lekki-Epe axis, the epicentre of enclave development in Lagos, it could be deduced that more enclaves mean more residents and, in turn, more cars plying the corridor (Interviewee 13). It is a big challenge in terms of environmental sustainability that requires government intervention such as rapid transit along the corridor because more cars result in increased travel time and pollution of the atmosphere. Given the present realities, the problem may persist for a long time: "it may not be sustainable, and at the end of the day, it creates more problems… apart from that, the maintenance of the Lekki expressway is also a challenge" (Interviewee 13).

Secondly, one of the subtle aftermaths of enclave proliferation is that the government may silently be giving up its ability to provide services. It will, in turn, put pressure on the enclaves in terms of self-provisioning of infrastructure services. It is emphatically noted that enclaving is a way of achieving spatial control and regulation: "they deliberately keep people away... they built those gates to be able to take care of themselves when the government could not take care of them" (Interviewee 1). There are potential consequences to such "keeping in". For instance, where people are self-providing, they want to keep it (regulations) within, "but it increases the discontent, it increases inequalities, and it distorts urban form" (Interviewee 1). There is a practical side to this argument. Due to access control in and out of the enclaves, residents in neighbouring communities show a sense of discontent and frequently question their "right to development". It is in terms of access to infrastructure and services the government *should* provide. Besides, the incidental decentralisation of infrastructure provision has, inadvertently or not, evidenced the rays of inequality that permeates the Lagos urban environment. Consequently, there is an *external* threat to urban safety for enclave residents:

> We have all succeeded in creating that tomorrow when there is going to be a revolution, they (the deprived masses) know where to go. We are already making ourselves targets.

> That is what we have done. The day the uprising will be against class, we have nowhere to go because we have put ourselves in those places where they can easily map and attack us. So, we are putting a bomb, which in some time will explode. (Interviewee 30)

Notably, this outcome is universal, as Steele and Legacy raise concerns about widening gaps between planning, delivery and management of urban infrastructure due to growing social and economic interest amongst urban managers, and this does not reflect overall public interest (Steele & Legacy, 2017). Thus, the emphasis is that there should be plans to reintegrate the enclaves back into the city system. It could be achieved by a comprehensive urban upgrade of the cityscape. It will ensure harmony between the larger metropolis and the enclaves regarding urban regulations, urban standards and urban systems. This spatial harmonisation will also allow the government to balance infrastructure provision across the board, thereby ensuring that basic amenities like water, power and road connections are available and accessible to all categories of residents. The critical submission is that balancing infrastructure provision will ensure that nobody is deprived irrespective of physical location in the city. Failure to harmonise development will, in the long run, weaken planning and development control approaches. However, attaining a satisfactory level of spatial harmonisation in urban Lagos remains a questionable feat, as further explained in chapter seven.

Thirdly, empirical analyses also show a gap in inadequate physical planning inputs and coordination harmonised by a land-use plan. This gap has afforded private developers (acting in the interests of the urban elites and with some level of support from the city government) the opportunity to consolidate the development of premium enclaves. There are two possible triggers for this outcome. First, the government is not meeting the infrastructure needs of Lagos residents. Second, Lagos is fast becoming an economically segregated city. Its elites seem interested in carving out living spaces that shield them from the informalities and hustling of the 70% urban poor. Today, along the Lekki-Epe axis, there has been an unprecedented development of private residential enclaves such as Lake View Park 1, Crown Estate, Royal Garden etc. The preceding redefines enclave development in Lagos as elitist, as developers usually target the upper-middle- and high-income-class of residents.

Fourthly, there are ongoing plans by some of the enclave management to cut reliance on the central infrastructure grid in a bid to beat the existing inefficiencies in the demand and supply of services, despite their current reliance on the existing network grid of the Lagos metropolis. For instance, there are plans for alternative electricity generation to cut reliance on DISCOs and possibly eradicate supply outages. Empirical analyses reveal the case of the VGC where, despite

getting preferential hours of supply compared to other parts of the metropolis, residents believe that the development of an alternative power source for the enclave is inevitable. Although it is at the expense of the residents, it is because of the inefficiencies that persist with the reliance on services from electricity distribution companies. This infrastructure *independence* could weaken urban cohesion and make the integration of the Lagos urban space less attainable. Ultimately, it would complicate city growth and urban development management.

Further, this study presents a broader contextual perspective on the highlighted issues. Drawing from empirical findings and compared to outcomes in other Sub-Saharan African cities, this study establishes that a notable manifestation of enclave urbanism is the fragmentation of infrastructure provision and management. It has, in turn, led to experiences of different levels of spatial accessibility that play out along socioeconomic lines in a bid to beat infrastructure deficit and underdevelopment (this outcome is fully explored in chapter seven as one of the key considerations for urban research). Unlike most cities in the global North, where investment in infrastructure is a priority for the city administrators/governments, Sub-Saharan African cities/urban centres are recently embracing the *adoption* of private provision. It is evident in privately developed spaces that might have the approval of the city administrators or regimes. Consequently, an emerging urban planning and management puzzle is that residential enclaves (tend to) function as systems of their own instead of functioning as sub-systems of the urban system- if properly planned and integrated. It creates weak intra-city connections and may result in restricted circulation and accessibility to infrastructure services.

In addition, given the realities of self-provisioning in enclaves, the issue of infrastructure integration comes to the fore. Infrastructure integration is an essential component of infrastructure planning, as is provision. There is a need to connect cities' infrastructure systems to enhance functionality, circulation and efficiency. It enables smooth interaction between different land use, transportation and social needs (Proffitt et al., 2017). Hence, issues of integration of urban enclaves concerning infrastructure provision and management need to be examined (this is captured in chapter seven). It is vital given the socioeconomic realities of the context they are emerging.

So far, analyses of the enclave urbanism phenomenon using four enclaves in Lagos as context-specific cases establish that Lagos premium enclaves are partially independent of their surrounding urban space. It is in a bid for more organised living spaces and better infrastructure functionality and accessibility. The inadequate investment in infrastructure on the part of the government also fuels the quest for urban *independence.* It has been strengthened by a privileged

socioeconomic class. Thus, the Lagos scenario validates Barton & Gibbons' (2015) findings that, across developing countries, it is somewhat becoming the norm that socioeconomic status defines accessibility to infrastructure.

The examined enclaves in Lagos also demonstrate that although these gated spaces inadvertently function as independent entities concerning infrastructure provision and management, they struggle with infrastructure inadequacies and management issues – albeit on a different level than the rest of the city. An example is the case of the Omole Phase II residential enclave, where there is still a need for more road construction projects. Consequently, residents are faced with the challenge of either generating funds through contributions or waiting for the concerned government agency (Interviewee 21). The aforementioned strengthens Bahn's (2013) and Watson's (2014) fantasy arguments about enclave urbanism aspirations in SSA as providing quality and uninterrupted infrastructure services within these enclaves partly remains a mirage. Rather than bringing relief to Lagos's infrastructure deficit and urban planning mismanagement ordeals, urban enclaves have subtly but mildly contributed to the urban growth complications of one of the fastest-growing urban centres of the world.

The submission of this chapter for the enclave urbanism debate is that while cities across Sub-Saharan Africa share certain peculiarities and socioeconomic structures, it is nonetheless necessary that they are studied context-specifically. For instance, while enclaving or sociospatial delineation *outcomes* may be similar, they do not outrightly have the same underlying motive or drive at play. Empirical findings show correlative patterns in Lagos, indicating that premium enclaves are governed either through an organised management company or by associations of residents who come together to keep their living spaces secure, functional, and livable. Also, there are clear indications of an infrastructure provision and management approach solely by private arrangement funding through the residents.

Conclusively, the characterisation, and assessment of infrastructure realities and issues of urban enclaving in Lagos call for retrospections and future projections on how to rectify urban development misgivings amongst stakeholders. However, the emergence of the EAC signifies a subtle interest in consolidating enclave urbanism in Lagos fuelled by capitalist interests. While the outcomes of urban enclaving across Lagos are rooted in colonial spatial organisation approaches and reflect an escape strategy from infrastructure inadequacy, the EAC is presented in a different narrative. It is a new city development partly aimed at restoring Lagos' encroached shoreline area. Unlike the existing premium enclaves that emerged within the Lagos urban space, the EAC takes enclaving to a new level in terms of its location, size, scale and projections. These are examined in the next chapter.

Chapter Six

Planning and Implementation of the Eko Atlantic City: Projections, Development Realities, and Changing Infrastructure Approaches

6.0 Introduction

This chapter examines the planning and implementation of the EAC concerning its development projections and the realities of an independent infrastructure system. It adopts thematic analysis to explore the emerging city's urban development aspirations and its expediencies. Three dominant themes emerged from descriptive coding: projections, development realities, and changing narratives of infrastructure ideals. The *projections* theme relates to the identified development aspirations driving the city, discussed in light of what the city represents and aims to achieve in the realm of urbanism in Lagos. The *development realities* theme presents the examination and analysis of the EAC's (urban) development practicality. In other words, it presents analyses that capture *what could be* versus *what is* concerning the EAC. The last theme, changing *urban infrastructure ideals,* captures how the EAC depicts a shift in the norm concerning ideals and narratives of infrastructure in the context of Lagos observed in the SSA realm.

Two research hypotheses guide this chapter's analysis: *the EAC's independent infrastructure plan is necessary and practical given its planning and implementation approach,* and *the EAC's development policy is not in the interest of the Lagos urban poor majority.* The hypotheses represent a paradoxical reality based on urban development necessity versus overall public interest. These stem from a baseline assessment of infrastructure, functionality and integration realities within the Lagos context (as captured in Chapter 4); and the tendency for further complications of the Lagos urban landscape given the nature of the development in terms of scope, ideals and projections. Concerns are in light of the enclave urbanism debate (chapter 2; section 2.1) and, this chapter explores how the development of the EAC and its infrastructure approach shapes or influences the narratives and realities of enclaving and its projected consequences. It is because of the inefficiencies and dysfunctionalities that characterise infrastructure provision and management across the metropolis.

The research chapter aims to advance the *aspirations* debate of enclave urbanism in SSA. The debate, by and large, interrogates the urban expediencies of emerging premium spaces across cities of SSA given their sociophysical and geographical peculiarities (Bhan, 2013; Watson, 2014; Cain, 2014; Güneralp et al., 2017; van Noorloos & Kloosterboer, 2018).

The analysis and discussions presented thereafter provide empirical assertions that satisfy the second research question for this study: *How does the planning and implementation of the EAC concerning its urban development aspirations differ from its development realities?* It is based on empirical data analyses from primary and secondary sources, as detailed in chapter three. This chapter's presentation is structured such that findings from empirical data are first discussed and analysed. Then, they are theoretically examined and substantiated regarding the subject matter of this study to get more nuanced submissions. Summarily, outcomes of findings and analyses establish that while the EAC's emergence further consolidates urban enclaving in Lagos and raises issues of worsening socio-spatial segregation, it is nonetheless an urban intervention that has achieved the primary aim of saving the coastal area of the Lagos metropolis while also boosting its megacity status. This chapter is hereafter divided into three sections (projections, realities, and changing infrastructure ideals).

6.1 Urban planning projections of the EAC

A baseline assessment of the EAC shows that the emerging city takes enclaving in Lagos to a new level. It is not a part of (within) the physical landmass of the Lagos urban space. Rather, it is emerging entirely from a partially artificial (reclaimed) land area previously identified as the recreational Bar Beach. For this reason, it is regarded as *a unique new city within a city* (https://www.ekoatlantic.com/media/video-gallery-2/; 0:07 – 0:10). The total reclaimed area is 25 square kilometres while the land area for the development of the city is 10 square kilometres. The city is projected to accommodate 300,000 residents spread across 10 districts while 150,000 commuters will access the city daily. Upon completion, the city will provide 350,000 jobs in total. In terms of its development characteristics, the city's fully private funding arrangement makes it different from other enclaves in Lagos. It is investment-driven, potentiating the neoliberal restructuring of space in the interest of investment returns and capital accumulation driven by market forces. One of its aims is to attract (more) foreign direct investment to Lagos through private investment in real estate and tourism. These neoliberal characteristics distinguish it from the existing premium enclaves in Lagos - which are sustained by an interest in safety, order and physically organised living spaces. In the case of the existing premium enclaves, considerations for investment returns on landed properties are secondary (Interviewees 10,13, 20).

However, empirical findings establish that the present-day Eko Atlantic City emerged after several proposals, decisions, and development evaluations. A notable outcome of such

development consideration processes is its projection as the African continent's future financial city. The idea was conceptualised in 2006 after several development negotiations and considerations. The primary initiators are the Lagos and federal governments of Nigeria and South Energyx Nigeria Limited (www.ekoatlantic.com; interviewees 5, 13). The initial conception was an environmental intervention strategy aimed at protecting the shoreline of Lagos from the encroaching Atlantic Ocean. Over time, a new city plan was adopted after various key aspects were considered: technology, cost implications, and investment viability of land reclamation. The reclaimed land was to become a mixed-use city development named the EAC. Outcomes of the empirical analyses and evaluation of the city's projections support the narrative of Cain (2014) that emerging enclaves across SSA may be a necessary urban intervention. The thematic analysis is carried out by organising empirical data to generate the *planning projection* discourse. It is under three categories: environmental protection strategy, mixed-use smart city development, and tourism destination projection. The highlighted urban aspirations are discussed in the subsections below.

6.1.1 Environmental (shoreline) protection strategy

The inceptive urban projection driving the emergence of the EAC is the protection of the Lagos shoreline of the Victoria Island axis along the Ahmadu Bello way from threats posed by the encroachment of the Atlantic Ocean. More specifically, the EAC is a product of implementing an environmental intervention initiative designed to save the Victoria Island axis (EAC project video on www.ekoatlantic.com).

> That place used to be land (shore area). It was a reclaiming of what used to be land before we lost it to the ocean surge. It came down to that extent. And for many years we were putting sand back, we were dropping tons of sand and it was not helping us. So, to save Victoria Island, save the entire Lagos, that [the EAC]is a project of necessity. (But) it now came in the form of a business venture, which is a double win. We got our land back [and] a new town is developed from it. The old town of Victoria Island is saved. (Interviewee 9)

There is an empirical consensus in this line of argument based on considering narratives establishing that intervention to avert threats posed by the encroachment of the Atlantic Ocean is necessary, given the socioeconomic importance of the axis. For instance, the submissions of the EAC planning department, urban planners, built environment experts and representatives of

government ministries and agencies acknowledge the threats posed by water surges from the Atlantic Ocean (Interviewees 3, 5, 8, 12, 14, 18,30). Similarly, the narrative below captures the pre-2006 scenario around the Lagos shoreline:

> "In 2005, the coastal city of Victoria Island in Lagos was in imminent danger of being overwhelmed by an ocean surge from the Atlantic Ocean. The coastal road, Ahmadu Bello Way, had collapsed into the ocean after the adjacent Bar Beach had been completely eroded away. [The] resulting substantial flooding had forced adjacent businesses and homes to be abandoned. The lives and livelihoods of residents in Victoria Island had been endangered. It was fast becoming all-to-clear that if action was not taken soon, millions of square meters of developed land would be lost to the ocean." (The EAC Education portal on https://www.ekoatlantic.com/education/sea-wall/)

The "threat" rendered the area inhabitable, resulting in abandoned residential and commercial buildings in the coastal area. However, people and economic activities return in the present-day post-intervention scenario.

In addition to the foregoing, analysis of the perspective of the Lagos physical planning ministry is consistent with the environmental intervention narrative underpinning the planning and development of the new EAC enclave:

> We had a challenge in Lagos, and the challenge in Lagos is that sand was being taken away from the foreshore of Victoria Island (Bar Beach) and deposited in some other places. So, how do we reverse that trend?... They did a report that we can reverse the trend of erosion by the Atlantic Ocean in Victoria Island and then get the sand back to its original place. That gave rise to the concept of the Atlantic City. So, we now made a design. It was taken to Lagos state, and then it was approved. Energyx (the development company) and other companies moved in and started their work, pumping sand using another system of sand repatriation to create the extent of sand. (Interviewee 18)

Beyond the preceding narratives, graphical analyses support the argument for the imperatives of an environmental protection urban strategy to combat Lagos' shoreline encroachment fallouts. The pre-2009 images below (plates 6.1 and 6.2) depict an environmentally vulnerable Lagos Island axis that does not guarantee the safety of people and infrastructure. Specifically, plate 6.1 below shows the Lagos shoreline "unprotected" from the encroaching Atlantic Ocean.

Plate 6.1: Lagos shoreline off Ahamdu Bello way, Victoria Island [pre-2009]. (Source: www.ekoatlantic.com).

Plate 6.2: A close view of the encroaching Atlantic Ocean by Ahamdu Bello way, Victoria Island [pre-2009]. (Source: www.ekoatlantic.com).

Although the scenario is an outcome of over five decades of shoreline erosion, the intensity of its physical degradation impact (see plate 6.2 above) is a critical factor necessitating the proposed environmental protection strategy in the mid-2000s. Moreover, narrative sentiments described the tidal effects as a fallout of climate change. Specifically, interviewee 13 notes that "the international community, also seeing it as part of the fallout of climate change (supports the project) ... (It resulted in) putting a wall to check the erosion by sand filling to the original boundary of Lagos". The Lagos government pushed this narrative to secure local and international support for the project initiation. However, while some interviewees acknowledge the climate change narrative (Interviewees 1, 5, 6,9, 24), the concern across the board is the type of intervention adopted to save the shoreline.

Consequently, a significant outcome (of the intervention) is the construction of a revetment called *the Great Wall of Lagos* (see plate 6.4 below). Since the construction of the wall, the city's development has progressed significantly. However, the preceding empirical analyses so far present the arguments for an urban intervention along the Lagos shoreline. Insights on the ocean encroachment's cause(s) or trigger(s) are missing. In light of this, this study provides different narratives for analysis. For example, Ventures Africa explores some background narratives providing insights into the possible triggers of the encroachment and subsequent threats posed by the Atlantic Ocean:

> "Between 1908 and 1912, British colonial authorities constructed three "moles" or "breakwaters" around Bar Beach to ease the movement of ships into the Lagos Harbour. These moles disrupted the natural flow of the ocean and set up tidal action that would, over the next century, erode more than one kilometre of the Bar Beach coastline. Since the late 1950s, there have been several unsuccessful attempts to keep the ocean at bay by sand-filling. By the turn of the 21st century, the Atlantic had crept dangerously close to the heart of Victoria Island, eventually washing away half of the Ahmadu Bello coastal road. In December 2005, the government launched the Shoreline Protection Project, which involved the construction of a kilometre-long wall of interlocking concrete blocks and stone (which became visible around 2013)". (Ventures Africa, December 2012)

The above narrative establishes that the construction of the moles between 1908 and 1912 interrupted the ocean flow, inadvertently triggering a devastating encroachment that is being addressed in recent times. Notably, the mole construction was driven by economic motives, given that it allowed "larger trade ships to freely enter and exit the Port of Lagos and discharge

their cargo directly, increasing the volume of trade through this vital new trade hub" (The EAC education portal on https://www.ekoatlantic.com/education/sea-wall/). The port's redevelopment and extension, in turn, became a critical factor in promoting the economic vibrancy of Lagos, making it a major economy within the African continent. This expanded narrative is significant. It establishes that Lagos has achieved economic prosperity at the risk of a threatening level of environmental degradation. Almost a century later, the city government has embraced a capital-intensive land reclamation project transformed into a modern new city through a private initiative to *permanently* reverse the ocean encroachment (Plate 6.3 [a and b] show the reclaimed land and the different stages of reclamation; while plate 6.4 shows the revetment protecting the EAC from the Atlantic Ocean).

Nevertheless, empirical evidence projects that the shoreline intervention is an urban issue of urgency, given some socioeconomic realities. For instance, interview analysis establishes that the annual sand-filling exercise to extend the coastline into the ocean is unsustainable, given the cost implication. Although the federal government incurs the cost, the budgetary allocation for the coastal sand-filling exercise could, perhaps, be diverted into the infrastructure deficits of Lagos.

> Before this issue, the federal government used to spend a lot of money bringing sand to the seashore of Victoria Island and those sand was taken away. So, every other year they brought in sand worth several billion and they are all swept away until we developed this system (land reclamation and development of the EAC) which now created what we have. (Interviewee 18)

Further, the processes and events of the land reclamation plan raised discussions on several considerations that, in turn, advanced to extensive land reclamation and the development of a new city as a cost recovery strategy (Interviewees 24, 30).

Another key consideration, along with the preceding argument, is that the proposal to construct a city on reclaimed land is an afterthought, given the cost implications and other economic considerations. This line of argument establishes that "sand filling 10 square kilometres of the ocean is not cheap. The middle- and low-income cannot afford it. So, it (building the city) is a 3-pronged approach to maximise the land gotten from the Atlantic Ocean" (Interviewee 24). This narrative is consistent with the submission that the capital-intensive nature of the project necessitates economic pricing of the reclaimed land to compensate for what has been invested. However, there are counterarguments that small-scale

shoreline protection (without land reclamation) is less expensive and reduces the pressure for high-class city development (Interviewees 1, 2, 34).

Plate 6.3(a): The reclaimed land area circa 2011. (Source: www.ekoatlantic.com).

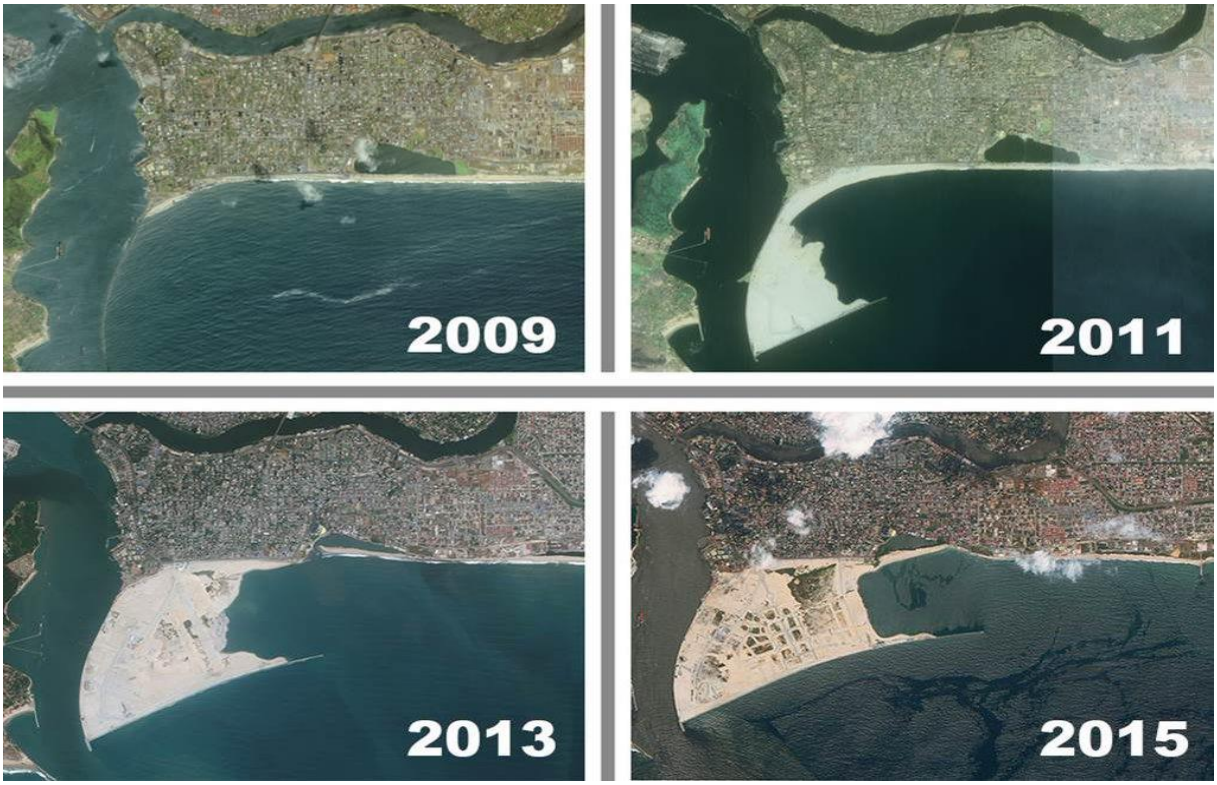

Plate 6.3(b): The different stages of EAC's land reclamation/development captured in years. (Source: www.ekoatlantic.com).

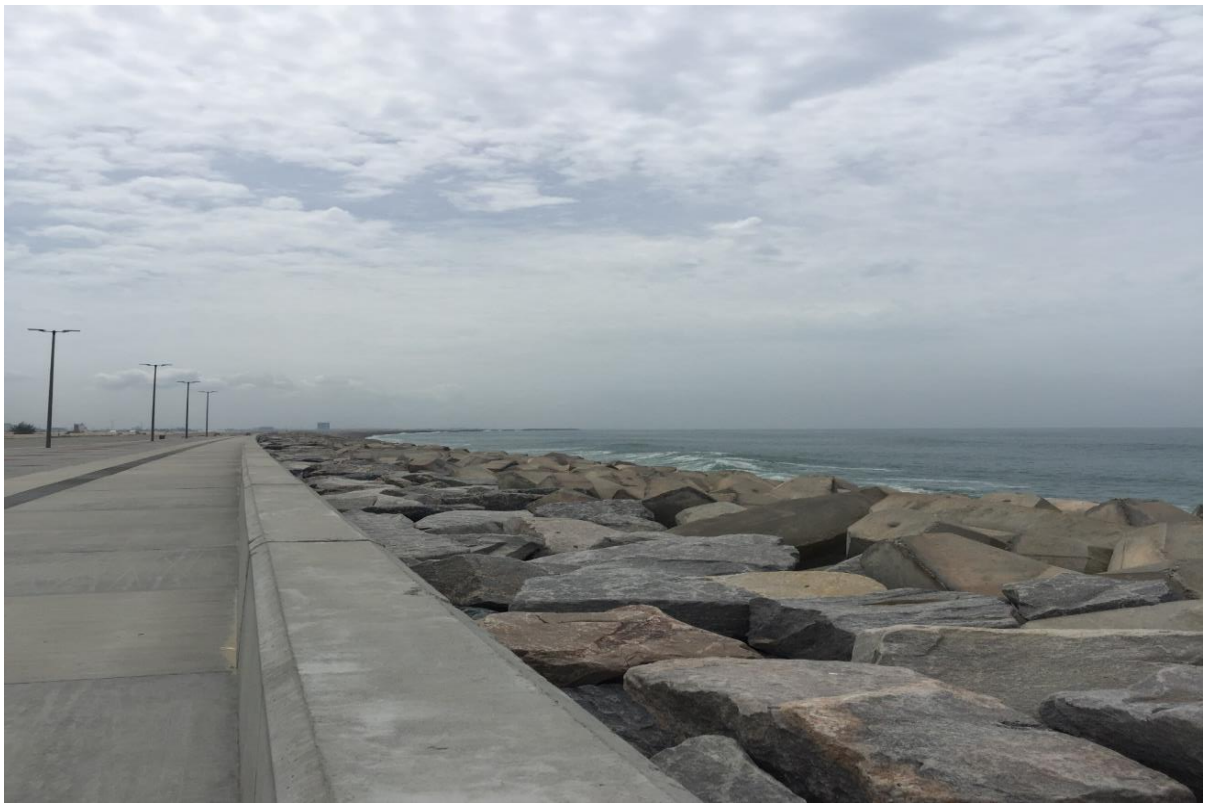

Plate 6.4: The great wall of Lagos protecting the EAC from the Atlantic Ocean. (Source: author, 2019).

Clearly, beyond the environmental protection projection, economic motives have influenced the project vision to the idea of a world-class city. Although less is known about the economic cost of the reclamation (privately funded under the management of South Energyx), the "cost recovery" narrative backing the new city development is open to further debate. Perhaps, there are other options to save the shoreline, but this is beyond the scope of this study. Irrespective of this, the land reclaimed and protected by the great wall is considered *safe*. Otherwise, the EAC would not have been designed and built there. Nonetheless, interview analyses suggest Lagos's poorly developed technology and low-level innovations translate to few options for saving the threatened Victoria Island shoreline. The reclaimed land is developed into mixed-use smart city development. This outcome is discussed in the next subsection.

6.1.2 Mixed-use smart (financial) city development projection

A significant investment in housing, like other public goods/infrastructure, is needed to accommodate Lagos' fast-growing urban population (Ibem, 2011; Olajide, 2018). Perhaps, the case of the EAC could be embraced in the light of this because "...governments in many African countries have so far been unable to structurally address the aforementioned matters, and have

therefore shifted from a providing to an enabling approach, with the state encouraging private sector investments in urban housing, infrastructure, and services" (van Noorloos and Kloosterboer, 2018; p.1224). The current reality of Lagos' urban housing stock is a huge deficit in terms of housing units needed to cater to its high population. This deficit is despite piecemeal investments in housing by successive governments since 1999 (Interviewees 3, 9, 26). Buttressing the foregoing narrative on housing needs in Lagos, Interviewee 24 notes that:

> ... the EAC was built to provide additional accommodation (residential housing) for the high- and middle-class in Lagos because Lagos has a housing deficit for the low-, middle- and high-income. When you see the Lagos State Development and Property Corporation (LSDPC) and the housing policies of Lagos, they will tell you they are building houses for low-income and middle-income earners. But there is also a shortage of housing for the high-income group. So, to provide for the high class, the EAC was built...

Vividly, empirical analyses suggest that the EAC projection translates not just into a city housing project that reduces the existing deficit but a mixed-use smart city development. The smart city development aspiration is a strategy adopted to transform Lagos into a financial capital city of Africa. This is backed by the willingness of local and international investors who provide funding for the emerging city, given the investment potential of Lagos as a sub-economy of Nigeria.

Although the city gradually emerges into its smart *reality*, it is unclear what "smart" represents in the context of the EAC. In this regard, the researcher explores narratives and deductions from empirical analysis. First, the main emphasis on its "smart" projection is that it is a city developed "as a high-class, mixed-use, compact, resilient, intelligent city where people can live, work and play" (Interviewee 24). Specifically, in the context of the EAC, the development team narrates its *smartness* attributes thus: it is a mixed-use city where it is possible to live, work and shop in the same building while also not having to go far to access recreational facilities; it utilises energy-efficient materials in its building and construction with an underground sewage system and efficient waste disposal; and, will have the latest component of essential ICT supported by uninterrupted power and internet services (Interviewee 29). Also, there is a narrative that "smart cities like Eko Atlantic are well-planned, efficiently-designed developments that use technology to make decisions and find solutions to everyday issues... to build an eco-friendly city that is self-sufficient and sustainable" (ThisDay: thisdaylive.com; 19 January 2021). These narratives are projected in plates 6.5 [a and b below]

in the city's smart city design concept. They reflect the use of smart technology in the design and operation of the emerging city. It is in its design reality but not yet in the built reality as noted.

(a)  (b) 

Plate 6.5(a and b): Mixed-use smart city design concept of the EAC [(a) Oceanfront business district; (b): Marina district residential complex]. (Source: www.ekoatlantic.com/media/image-gallery/)

In addition, Marketing Edge projects the EAC as gradually becoming Nigeria's first smart city characterised by city-wide high-speed internet, a proper network of a water canal system, constant electricity, and efficient waste disposal (see *Beyond a Smart City: What Eko Atlantic is doing for Lagos*; https://marketingedge.com.ng/beyond-a-smart-city-what-eko-atlantic-is-doing-for-lagos/). These narratives place the smart city initiative of the EAC in the regular discourse: a modern city management tool that uses electronic data and ICT to improve operational efficiency, data access, quality of life and governance.

Evidently, there are contradictions in the EAC's *smart* city development approach. For instance, while the city projects to utilise eco-friendly and sustainable design and technological solutions, its land reclamation and construction images reveal super carbon processes involving heavy-duty machinery and equipment, as shown in plate 6.6 (a and b, below). Hence, the project activities pollute the ecosystem against what has been projected. Moreover, the distortion of the aquatic ecosystem created by the land reclamation activities sharply negates the "eco-friendly/smart environment" city development component. During the reclamation and construction phases, sand, gravel, and heavy concrete materials are used to push back and wall off the Atlantic Ocean (see media on www.ekoatlantic.com). In this regard, there is also a high possibility of construction debris ending up in the ocean. Also, it is questionable whether luxury highrise developments can be eco-friendly. In addition to the carbon-intensive nature of their

development, the demand for air conditioning and energy consumption technologies make them less environmentally friendly.

(a)  (b) 

Plate 6.6[a and b]: Heavy-duty machinery utilised in the reclamation and construction of the EAC (Source: https://www.ekoatlantic.com/media/image-gallery/)

The preceding narratives show contradictions in the EAC's *smart city* aspiration, establishing that the project's reality is not entirely in line with its projected smart components. Nevertheless, the city's private development initiative could anchor its *survival* or sustainability. The city's tourism potential further explores its utility, as discussed in the next subsection.

6.1.3 Tourism destination projection

The EAC is situated on the extended *Bar Beach*, which served as a tourism and recreation destination for locals and foreigners (Interviewees 9, 13, 30). Coincidentally, one of the EAC's projections is a global tourism destination. Empirical narratives provide a background to the preceding, establishing that from the late 1960s, residents of Lagos embraced the Bar beach as a zone for "public recreation".

> It will also serve as a tourism point for Lagos State. So, that place will attract tourists during public holidays and with that, if you carry out your statistics, you will find out that it is the common man that you will mostly find there. You know that place is in the zone of the previous Bar Beach that we used to have. (Interviewee 7)

The activity was gradually interrupted by the encroaching Atlantic Ocean and the land reclamation exercise. Consequently, many people, including foreign tourists, were disengaged from experiencing nature recreation provided by the beach area. Nevertheless, there are

projections that the emerging city potentially serves as a tourist location, even for people in the lower socioeconomic class. This narrative stems from a perception of the new city displacing the previous Bar Beach.

In light of its tourism projection, the city already hosts sporting and social events despite not yet being in its built reality. The sporting and social events are part of community engagement strategies by the development team and the Lagos state government to *introduce* the EAC to the general public (Interviewees 14, 29). These include Africa's first-ever Beach Polo tournament [2015], the Lagos marathon [2016 to date] and the annual fixture for Copa Lagos (https://www.ekoatlantic.com/media/video-gallery-2/; 11:23 – 11:43). Specifically, the annual Lagos city marathon attracts local and international participants and audiences from different parts of Lagos (see plates 6.7 a and b below). Analyses of project images show that, upon the city's completion, a significant attraction point will be the Marina connecting the different parts of the EAC through its waterways and canals (plate 6.8[a and b]). The Marina is designed to not only provide transport means within the enclave but also connect with other parts of the metropolis via the coast. In this line of analysis, the city video plan captures that "the residents, the businesses based here and, of course, the visitors and tourists will be able to enjoy the best of coastal attractions" (https://www.ekoatlantic.com/media/video-gallery-2/; 11:00- 11:09; also see plate 6.8[a and b]). Specifically, visitors and local tourists will be able to book their entry into the city online and in person (physical registration to visit the city had commenced at the EAC centre in Lagos at the time of field research for this study). Entry confirmation is done at the main entrances for clearance. For international tourists, the emerging city infrastructure also caters to their accommodation needs through its 5-star luxury hotels.

(a)  (b) 

Plate 6.7: Local (a; 2020) and International participants (b) at the Lagos city marathon. (Source: [a] (https://www.wikiwand.com/en/Lagos_City_Marathon#/2019); [b] https://guardian.ng/sport)

(a)  (b) 

Plate 6.8(a and b): Design concept for the West Point Marina (a) and Promenade at the Marina West Point (b). Both spots would be open to the public and tourists. (Source: www.ekoatlantic.com/mdeia)

The coastal city waterways networks will move people around the city in boats and yachts (plate 6.8a) and connect with other parts of the Lagos metropolis. High-earning tourists will be able to lodge in five-star hotels in the city. These complementary service connections boost the tourism potential of the city and also increase its potential for revenue generation.

> I know that a few Marinas and lakes have been created and if they provide hotels that will attract conferences and things like that, of course, the rest of the city will flow with it. So, it is about the details of the facilities that will be provided. (Interviewee 21)

This connection will be the first in a Nigerian city upon completion. Although Lagos' water transport network is steadily expanding to ease the burden on road transport, it lacks the standard and capacity to cater to its over 20 million population. Thus, the EAC's waterways connection not only boosts water transportation in the city but also serves as a source of revenue through tourism. Given the preceding analyses on the projections of the EAC, this research engages in some reflections below.

Reflections on the EAC's urban planning projections

The analyses of the projections for the emerging EAC reveal the case of an *expedient* urban intervention, which presents contradictory realities concerning its planning and implementation. Clearly, empirical analyses reveal arguments for and against concerning its projection realities. Arguments *for* its planning and implementation represent the emerging EAC as a necessary urban intervention given that it addresses the threats posed by the

encroaching Atlantic Ocean. Moreover, it promotes the conservation of financial resources concerning the cost implication of shoreline restoration through sand-filling activities initially adopted by the government. The preceding are positive derivatives for the admissibility of the environmental intervention input.

In contrast, the approach, technology, and procedures of land reclamation all adopt foreign technologies. There are narratives that the government failed to explore local solutions to address the ocean encroachment, thereby prioritising financial gains. While preceding arguments establish a basis for the environmental protection intervention needed to save the Lagos shoreline, beyond what is known, it is unclear whether there were considerations for options by policymakers and stakeholders regarding the reclamation method. Moreso, there are concerns about when and how the decision-making process for the EAC was adopted. The fact that respondents do not provide any narratives about participation in the public hearing or consultation forum reveals a gap in the project's development conception and consideration phases. Given this, it appears the decisions establishing the project conception were entirely a government/private development call. There are possible socioeconomic consequences of this gap. One such is that the interest of the urban majority may not have been represented. For instance, people could have advocated for a shoreline strategy that could, in the end, retain the use of the shoreline (as a recreational Bar Beach).

Another key reflection is that the EAC's mixed-use smart city development initiative increases Lagos's housing stock and boosts its megacity image. The introduction of smart technology initiatives for the operations and management of the emerging city (high-speed internet, efficient waste disposal, private power generation, water canal transport system) aligns with practices in globally renowned cities. Notwithstanding, Lagos's technological innovations cut back the possibility of a smart city as a subcomponent of its urban system. In contrast to its eco-friendly development approach, there are shreds of evidence to argue the case of eco distortion and pollution, as analysed. That said, the smart city development raises further concerns that support current debates among African scholars, questioning the realities of projects' implementation concerning premium urban developments (Lemanski, 2007; Watson, 2014; Güneralp et al., 2017). In addition, Kirimtat et al. (2020) note that "several key components that constitute a smart city are reported in the literature; thus, some of these components, such as smart people, smart economy, smart governance, smart mobility, smart environment, and smart living, are of interest…" (Kirimtat et al.2020; p. 86450). In light of this, *how* the "smart" nature of the EAC can be sustained in the long run is subject to speculations

given the realities in other parts of the Lagos urban space. Even when they are planned with sound policies to guide their development, issues such as poor policy implementation and actualisation are common. It is because "much of urban expansion in Africa is characterised by unplanned and unregulated growth, exacerbated by the legacy of colonialism, structural adjustment, and neoliberalism that spawned weak urban planning institutions" (Güneralp et al., 2017; p.2).

In addition, the EAC's viable tourist attractions project the megacity image of Lagos in a better light. Nevertheless, there are socioeconomic concerns given the demographic characteristics of Lagos. On the one hand, tourist attractions serve as *unifying* points for the city experience (Interviewees 7, 9, 11). For instance, the Marina West point promenade not only attracts visitors and tourists but also provides a source of revenue to the enclave management and the Lagos economy. On the other hand, the realities of accessibility and availability to people in the lower socioeconomic cadre remain uncertain, given Lagos' antecedents of sharp socioeconomic segregation. The patterns and undertones of socioeconomic interrelations in Lagos have recently become more of *live-and-play-with-your-class* sentiment. Moreso, the tourism aspiration of the emerging city triggers mixed feelings:

> They are struggling to have a "new Dubai" (The EAC) here. But, Dubai is based upon a philosophy: urban tourism enhanced by architectural iconography; meeting the needs of the people because they were traders before and they are still traders in Abu Dhabi. No home-grown philosophy, no principles, and the more confusion, the better for the political class... (Interviewee 2)

Also, a close examination of the concept images (for example, plate 5.8[a and b]) reveals that the tourism services may not be affordable to most *Lagosians,* given a predominantly low-income population. The concept images capture foreigners and "people of class", as deduced from their outfits (see plate 5.8b above). Perhaps, the images project the target audience, raising concerns about the city's experiential outcomes.

Conclusively, when the projections of the EAC are assessed in light of current debates on enclave urbanism in SSA, there is ample empirical evidence substantiating that premium enclaves could become a reality while further addressing the surging urban population issues. The protection of the Victoria Island axis reflects the emphasis that contemporary city planners and administrators recognise the importance of making the city safe and sustainable to guarantee the continuity of activities such as living, working, recreation, and trading (Graham, 2000). Also, findings in this section seem to be consistent with the position of Cain (2014) that

although emerging premium living spaces across SSA may be born out of Western ideals and philosophies, they could nonetheless be a necessary urban intervention. Regardless, the technological approach towards the reclamation activities is imported from the West and adapted to local peculiarities.

However, despite providing benefits across the board, urban elites are the primary winners. It concerns land accessibility, economic returns, and organised segregated urban living. The adverse outcomes (eco pollution/environmental degradation, reduced urban experiences, commercialisation of public services such as recreation/tourism) are borne mainly by the urban poor. In light of these, the next section discusses the development realities of the emerging EAC regarding its plans, institutional arrangement, and sociophysical and economic link to the larger urban Lagos.

6.2 Development realities of the emerging EAC

In scholarly debates and media discourse, it is acknowledged that the EAC represents one of the grandest inputs in the history of urban development initiatives across the African continent (Ventures Africa, 2012; Ajibade, 2017). However, there is a dearth of empirical evidence(s) establishing the city's development realities. This section builds on empirical data to assess the EAC's *realities* concerning its development, management, and institutional set-up and link to Lagos. There is also an assessment of socioeconomic considerations and the plan for an independent infrastructure system to establish scholarly assertions. Findings establish that the EAC's institutional set-up and development initiative rely less on Lagos's administrative functionalities and the state's resources. In addition, the EAC's plan for an independent infrastructure system also projects a justification reality. Nevertheless, there are arguments against its implementation realities, especially in light of projected socioeconomic benefits that are not in the overall public interest. These issues are discussed in three subsections below.

6.2.1 Development, management, and institutional link (to Lagos)

The first assessment of the development realities of the EAC is examined from three lenses: urban planning and management of the enclave; characteristics of its physical development initiatives; and the role of government in planning regulations. These three are

based on statutory roles and requirements concerning urban planning and development activities in Lagos. The aforementioned is coordinated at the state level through the Ministry of Physical Planning and Urban Development (MPPUD). Specifically, the Ministry of Physical Planning and Urban Development regulate and coordinate development proposals and activities through two major agencies: the Lagos State Physical Planning Permit Authority (LASPPPA) and the Lagos State Building Control Agency (LASBCA). Both agencies are established to coordinate physical planning and development matters and activities at local government/council levels. Summarily, the LASPPPA is responsible for the initiation, formulation and implementation of physical planning (granting of approvals and monitoring of layouts and development schemes), urban development and urban renewal policies and programmes. It is also saddled with the preparation of regional, master, and model city plans; site selection for government agencies and other institutions and action and development plans for excised villages (https://laspppa.lagosstate.gov.ng/responsibilities-2/). On the other hand, the LASBCA is responsible for building control regulations and implementation of the physical planning, urban development and building laws in the state. In addition, the agency carries out the inspection and records activities of building works and the certification of various stages of physical development (buildings); the removal of illegal and non-conforming developments; identification and removal of distressed buildings to prevent collapse. It also liaises with the LASPPPA to regulate development activities (https://lasbca.lagosstate.gov.ng/about/).

The reality of physical development control and management in the EAC is that it has institutional relations with the MPPUD but under a special arrangement. South Energyx Nigeria Limited coordinates and manages development proposals and activities within the EAC through its planning department. Under this arrangement, the Lagos state government issues development permits and other documents needed to carry out physical development through the MPPUD to the planning department of South Energyx (which must have prepared and verified the documents before forwarding them to the MPPUD). The South Energyx's planning department is not authorised to issue planning permits and other documents to developers in the city. Instead, it liaises with the MPPUD to get development approvals on behalf of its developers. The management company also undertakes follow-up activities relating to permits on behalf of the developers.

> This is how it works. We have the certificate of occupancy for the land (the C of O) and then we issue deeds of assignment to developers who want to build... but again, you are working within Lagos state, so you have to answer to the government to make sure that

> everything is done properly. So, you get your (approval for) development plans and those other things from the state government and they are very supportive because they want this to succeed. It is part of Lagos so they are very supportive. That is how it works essentially. All the documentation that is required to function within the city, like development permits and others, is issued by the government. We handle all of that on behalf of the developers so they don't have to be doing all that running around. (Interviewee 29)

Emphatically, the EAC's physical planning department is responsible for development control activities within the enclave, ensuring that physical developments are according to approved standards and specifications. The city's development is funded through a financial arrangement involving local and international financial institutions, as explained by the narrative below:

> The project's main funders are three Nigerian banks: First Bank, First City Monument Bank (FCMB), and Guaranty Trust Bank (GTBank) – all publicly traded on the Nigerian Stock Exchange. The international bank BNP Paribas is also heavily invested. The balance of the funds needed will come from land sales. None of the funding will come from the government, whose role is limited solely to providing the concession for the project and receiving taxes on the land sales and development. (Ventures Africa, December 2012)

South Energyx also sources funds from the sale of (reclaimed) land. While the Eko Atlantic is entirely a private development initiative, it is coordinated by the Lagos state government through a multi-ministerial approach that involves lands, physical planning, environment, and transportation ministries. The basis for the multi-ministerial approach is integrating the EAC with Victoria Island through a government-coordinated approach. Given its land area, several developers undertake construction works in the EAC, such as Julius Berger, RCC [Reynolds Construction Company], and the local ones [not mentioned] (Interviewee 12, 14).

The preceding analyses establish that the EAC is funded, developed, and managed through private initiatives, not relying on the financial or administrative resources of the Lagos state or federal government. The roles played by the different ministries concerning the project development are under statutory provisions - since the emerging city is part of the state. For instance, the MPPUD regulates all physical development activities within the boundaries of Lagos State. Hence, it is a prerogative to oversee and monitor development control activities within the EAC. However, what plays out in the EAC is a multi-level arrangement concerning physical development documentation and regulation. The MPPUD issues all necessary physical

development documents such as planning permits in the city through the EAC's planning department. The EAC's planning department, on its part, carries out development control activities within the emerging city, as captured: "My department is the urban planning department. We are in charge of the physical planning of the whole environment, the planning and then the development control, regulation of all things, the plots and then the buildings in Eko Atlantic City" (Interviewee 12).

In addition, empirical analysis of the management and institutional set-up of the EAC reveals that although both tiers of government play defined roles [based on the memorandum of understanding], the EAC is an independently developed and managed enclave that does not rely on state resources or workforce. Conclusively, apart from considerations of physical planning regulations and development, the socioeconomic aspect of the emerging city's development reality is scrutinised to establish social and economic projections in the context of Lagos. It is examined within the enclave urbanism debate. The next subsection presents arguments in this light.

6.2.2 Socioeconomic analyses of the EAC

A critical consideration in the *urban fantasy* criticism of emerging premium enclaves [in SSA] is that "... these new urban visions and development plans appear to disregard the fact that at the moment, the bulk of the population in sub-Saharan Africa cities is extremely poor and living in informal settlements" (Watson, 2014; p.216). It suggests that socioeconomic criteria are suitable to justify or criticise urban growth or management outcomes. This study explains *socioeconomic* (criteria) as the general conditions of the people in relation to social and economic indices such as income distribution, access to employment opportunities, and access to basic infrastructure services such as water, housing, electricity etc. On this basis, Olajide et al. (2018) assess the urban development realities of Lagos (see Olajide, 2018), establishing that Lagos' urban management approaches reflect some inconsistencies and unsustainable urban ideals that do not have consideration for all categories of residents. The study also posits that Lagos' urban development strides have not translated into improved socioeconomic realities for the people, as would be explored in this subsection.

In light of the concerns in the above paragraph, the socioeconomic analyses of the EAC are presented. Empirical analyses establish that some input of socioeconomic considerations is incorporated into the design and implementation of the EAC. For example, developers are

encouraged to have creative funding models to finance development and residences characterised by co-living and co-working spaces.

> So, one way is we invite developers to have creative funding/financing models. There are different ways people finance development and residences around the world, so we always encourage (developers) to think about things like co-living spaces, and co-working spaces. (Interviewee 29)

Summarily, a co-living arrangement is a dwelling pattern where residents stay together in an apartment or building characterized by private rooms/bedrooms but with shared common areas and service costs. This arrangement aims to cater to people in the lower socioeconomic class. Another socioeconomic projection is that the city provides a source of livelihood for skilled and unskilled workers while there could be accommodation for domestic staff. The argument backing this narrative is that if the EAC had not been developed, people in the low-income group would probably have missed out on employment.

Contrariwise, there are socioeconomic issues not in overall urban interest. Empirical analyses project the argument that the emergence of the EAC deepens concerns for Lagos' urban development lacking consideration for its socioeconomic characteristics and realities. Respondents project that the EAC may not be socioeconomically sustainable due to high land and property costs, social exclusion and unrealistic projections. Interview analyses suggest that the city depicts another trend of enclave urbanism in Lagos, reflecting the government's lack of infrastructure capacity.

> It is not a very sustainable model for an inclusive society but that is the reality we find ourselves in, and until the government has the capacity to provide for everyone, and is able to consciously break down those barriers, those walls, that would be the reality of development in Lagos... And it is also a reflection of the lack of capacity for infrastructural development. (Interviewee 1)

The approach is not sustainable as increasing enclave development results in urban fragility, crime, and the vulnerability of the citizens. Also, private infrastructure provision for socioeconomic interests is fast becoming an acceptable urban development ideal. In the same line of argument, Interviewee 2 suggests that the EAC is designed for a specific class and further manifests inequalities. Another narrative captures that:

> I hope it will not become a stand-alone city that is not interacting with the greater Lagos. It does not mean the residents or workers will not have low-income people servicing

> them (for instance, the drivers, the cleaners, babysitters, and those who are doing some other support services), but if you cannot live in that estate where you work, where you provide support services, and you have to come from outside to work, then some level of social disintegration may occur. I know for sure that middle-income earners - I do not want to talk about low-income - cannot afford the price of land in that place so it will become an exclusively high-income city. (Interviewee 8)

The preceding quotations show that besides the EAC development projects' physical urban development input and infrastructure benefits, there are expectations for urban socioeconomic benefits.

Although the city is a private development initiative, it benefits from an existing public good: the reclaimed land (the "expanded" Bar Beach shore) area that served as a major recreational spot for Lagos residents from the 1960s until the late1990s. Based on this argument, expectations of socioeconomic benefits for people in the lower societal cadre are established. To a large extent, empirical analyses submit that the EAC project guarantees little to no socioeconomic benefits to the general Lagos public. At least, the projected benefits are not without a cost. An example is the case of the West Point Marina and points of attraction open to the public and tourists. In addition, the consideration for co-living and funding financing models lacks some merits considering the realities and possibilities of partial or complete payment arrangements. The reality in this context is that co-working and co-living arrangements can only appeal to well-educated and or travelled people in the higher middle-class and above, such as tech workers. Given restrictive socioeconomic opportunities, the housing units may not be affordable for some classes of residents. Moreover, the funding plan does not consider the project's capital-intensive nature. Necessarily, its pricing would reflect investment and market realities.

> If someone buys an apartment or wants to rent, are they paying fully or in instalments? So, that is how you think about all these things. But the reality is that this project is a capital-intensive project. So, whatever pricing that we come up with has to be reflective of the market and also of the amount of work that has gone into the project. (Interviewee 14)

Considering the preceding analyses, the city's outcomes of socioeconomic projection are not particularly new. There have been notions that attempt to improve the urban environment through physical developmental initiatives usually consider short- and long-term socioeconomic benefits, ignoring people/residents in the lower class (Amin, 2013). Thus, urban

centres' planning should incorporate physical, economic and social benefits that spread across different groups and components of the urban environment (Dempsey, 2006). Also, when the pursuit of economic and physical benefits drives urban planning without ample consideration for social benefits, socioeconomic exclusion of persons and activities may occur (Atkinson, 2000). Another concern is the plan for an independent infrastructure in the emerging city. Different projections from stakeholders and media discourses necessitate the need to present empirical evaluations concerning this type of infrastructure provision arrangement. The next subsection presents arguments in this regard.

6.2.3: An independent infrastructure system: projections versus realities

A baseline assessment of infrastructure realities in Lagos shows that infrastructure could unite or divide cities or communities through their physical or sometimes invisible forces of cohesion (see also Steely and Legacy, 2017). In the primary context of this research, the most remarkable physical development feature of the EAC is its plan for an independent infrastructure system. This is a *new level* of infrastructure provision outcome in the Lagos enclave urbanism context given that the new city is built from scratch with its infrastructure to define its exclusivity and new urban experience. For instance, one of the first development activities after land reclamation in the city is the construction of underground sewage and drainage systems. It reflects a new level of infrastructure development approach in Lagos. This is a different reality from the characteristics of existing enclaves which do not significantly project a new level of infrastructure development approach except for private funding/provisioning to beat service inefficiencies. In addition, while the EAC is developed on reclaimed land as new city infrastructure, the existing premium enclaves are, by and large, extensions of the Lagos geographical landmass. That is, Banana Island is a part of the Ikoyi area but has been extended by sand-filling activities; VGC is a part of the Lekki area, while Omole Phase II and Magodo GRA are part of the Kosofe local government area. Also, the existing enclaves partially rely on the Lagos infrastructure network such as road connections, water supply and electricity supply services.

The EAC's infrastructure proposal aims to shield the emerging city from Lagos' dysfunctional infrastructure. In this regard, there have been arguments and differing points of view among the proponents and key stakeholders of the EAC based on the submission that its planned independent infrastructure system makes it a city within the Lagos megacity capable of independent functionality. For instance:

> An independent water supply, power grid and sewage network ensure the city can efficiently serve the growing needs of its population. [The] city's power will be provided by a dedicated power plant, and Eko Atlantic's fibre optics network will be second to none. Additionally, to cope with Nigeria's heavy rainfall, a dependable system of stormwater drainage was put in place, extending some 30km under the city so far. (The EAC Project Video, https://youtu.be/IF2dDwwOGEo; 2018; 10:03 – 10:33)

The outcomes of empirical analyses (majorly in the three infrastructures assessed: transport, electricity and sewage system) show contrasting views regarding the realities of an independent infrastructure for the emerging city. However, empirical analyses align with the submission that such a plan could be achieved. It is projected that the plan could be actualised given that it had initially been incorporated into the EAC's development concept. The argument is that the EAC's independent infrastructure plan differs from the Lagos urban centre's inefficient infrastructure plans and implementation approach because development usually precedes planning in the latter:

> It is self-reliant; it can work as independent because the plan is there: their electricity, the modes of transport in that place. So, it is a well-developed plan. I saw their plan; they have like three modes of transport in that place [and] so that alone captures the aspect of infrastructure. [It] influences it. We are not saying that they will still depend on some infrastructure outside, but as much as they could to a very great extent, they have all the plans. (Interviewee 7)

Already, the city has constructed its underground drainage network, electricity supply cables and optical fibre connection. The optical fibre has been laid for internet facilities, ICT, telecom and other connections. This captures a level of built reality to its infrastructure aspiration. In addition, the city's neoliberal approach guarantees funding availability to actualize its infrastructure aspiration.

Another key consideration is that such an infrastructure provision approach has been implemented within the Lagos urban context. It is described as a *privately funded infrastructure* and ideal for such a development plan.

> I would rather want to use the word "privately funded" [because] they are the ones that fund that development. It is not new. That is what they did in VGC, some private estates have done that. They provide you with the road, they get you the support service for power supply, for water but they may now do a higher-level provision. It could be

> independent. For instance, I think they intend to generate their power on their own. The road is not a problem, they can do their roads with good trains, [and] do a better drainage design. At least they can generate their water, they design their sewage, their power and road. (Interviewee 8)

The Victoria Garden City (VGC) is a notable example of a private enclave in Lagos, where the construction of roads and arrangements for power and water supply services are independently organised. Implicitly, an independent power generation plan is imperative for the emerging city, given that Lagos still struggles with erratic power supply services.

The preceding empirical narratives establish some degree of validity on the EAC's infrastructure approach, based on the experiences of independent infrastructure and service provision cited in some of the existing premium enclaves. The city's infrastructures have been designed and built (or almost in their built reality). However, the construction of the power plant is in the planning and development phase. Moreover, it is argued that the EAC's independent infrastructure plan is pertinent in the context of Lagos, given that it is designed, financed, operated, and managed through a private development initiative. In the more comprehensive Lagos context experience, the government's financing and execution of infrastructure services are insufficient and ineffective. Despite this, since the EAC is emerging within the Lagos urban space, its infrastructure profile is projected to boost the city's megacity image.

Notwithstanding the preceding narratives, arguments are contradicting the realities and functionalities of the city's infrastructure plan. For instance, such a plan may not be entirely cut away from the Lagos metropolis. It is especially the case concerning physical infrastructures like road networks which would serve as the primary means of traffic exchange between the EAC and the Lagos metropolis.

> But in terms of physical infrastructure like road networks, there is no way they can just cut that place from the entire Lagos State. It will have to still run into it. Buses will still have to come from Lagos into there and all that. So, I don't think It can be an Island on its own, but then, when it comes to the provision of infrastructure that is going to sustain that place, yes, they can provide it. It can be developed as a green city. It's what I am seeing, that everything can work within that place, but... it will still have to be synchronized with some of the infrastructures like the road, rail infrastructure and some other things within Lagos metropolis or Lagos Megacity. (Interviewee 11)

The above quotation reveals some possible complexities in the development realities of the EAC infrastructure plan. For instance, the EAC plans for bus shuttle services as the primary means of access for non-residents. While the connections into terminals within the EAC have been implemented, bus connection services with the larger metropolis might be problematic given the inadequacies characterising the current Bus Rapid Transit (BRT) network. Further, empirical analyses reveal cogent concerns about a land-use plan encapsulating the interconnectivity between the EAC's infrastructure network and the existing Lagos metropolis. This is because, among other physical development quagmires, Lagos' disjointed land use plans are highly unsatisfactory and inconsistent.

Plate 6.9: Image of the 8-lane, 1.5km-long Eko Boulevard that runs from the Ocean Front into the Ahmadu Bello way. It is Nigeria's first 8-lane city road (Source: media on www.ekoatlantic.com).

Given its importance in harmonising urban functions and activities, the EAC's infrastructure plan may result in some functionality inconsistencies that could potentially interrupt the circulation of activities within the urban space. For instance, the EAC's 8-lane Eko Boulevard primarily links the EAC with the other parts of Lagos. The Boulevard (see plate 6.9 above) is a new "standard" in the length and design patterns of road construction in Lagos, and this could potentially result in some traffic exchange issues. The conflict of dysfunctionality is the difference in the number of lanes of the major roads, i.e. the Eko Boulevard and the Ahmadu

Bello way (see figure 6.1 below). The former has eight lanes, while the latter has four. Hence, there are concerns about road design and dimension discrepancies, given the heavy vehicular traffic characterising the Lagos metropolis.

Figure 6.1: Map showing the Eko Boulevard [in grey] connecting with the Ahmadu Bello way, Victoria Island. (Source: Author, 2021).

In this line of argument, an upgrade is required for the Ahmadu Bello way (and some other roads in the Victoria Island axis) to fit into the traffic and transportation demands of the adjoining EAC. There are concerns about the possibility of an upgrade:

> Who takes on the construction of Ahmadu Bello way? Federal government? Lagos state government? Public institution? Will they be able to do it to the standard where you can integrate the Atlantic City into it? You can answer that… because you know it is not feasible for the government to want to build a high-class level infrastructure to link this new enclave (EAC). (Interviewee 18)

The above translates to a potential circulation crisis within the axis owing to the standard discrepancies and uncertainties concerning the required upgrades. In addition, the realities of independent power generation and supply in the emerging enclave are uncertain, given the city's

history of power generation and distribution. The power station construction is still ongoing. Consequently, the EAC and its current occupants are connected to Lagos' central grid through supply from the Eko Electric Distribution Company (EKEDC; Interviewee 29).

The foregoing are indicators of the precariousness of an independent infrastructure system for the enclave. Nevertheless, since the city is emerging and currently has a lesser population than projected, conclusions about its infrastructure development outcome realities may not be accurate. There is some rationale behind this submission. For instance, given the low population of residents currently in the developed parts of the city, fast-tracking the independent power project may not be prioritised since there is a possibility of a (temporary) source of supply from the Lagos grid. Also, the availability of private funding for the independent infrastructure system of the EAC underlines the project's feasibility – even in the context of urban Lagos. In the city's current stage of development, most of its infrastructure networks have been independently planned and developed.

Reflections on the development realities of the EAC

The development realities of the EAC as examined under three sub-headings show reflections of urban tendencies towards neoliberal development undertones. The city's semi-autonomous development control approach and its plan for an independent infrastructure system are clear indicators of how governments, policymakers and city developers could *negotiate* statutory roles in favour of development characterized by capital and investment interests. For instance, while the MPPUD grants and approves all development proposals in the emerging enclave, development control activities are internally regulated by the planning department of the management team. The approach is part of the pre-development memorandum of understanding between the Lagos and federal governments and South Energyx to secure the confidence of developers, given that the city is (almost) entirely driven by private interests. Irrespective, it reflects a *break* in the norm of urban development planning and regulation in the state. The multi-level and bi-institutional development control approach in the EAC underlines concessions undertaken by the Lagos government in the interest of neoliberal development. While this approach may be necessary to sustain the project, it weakens and complicates urban development approaches and outcomes – as it is in the case of existing premium Lagos enclaves examined in chapter five.

In addition, while the socioeconomic analyses of the project show considerations for creative funding models that seek to accommodate the interests of people in the lower socioeconomic cadre, its benefits are nonetheless mostly not in the general public interest. Specifically, the low standard of living and dwindling socioeconomic opportunities in Lagos cast shadows of doubts on the realities of the co-living arrangements proposed by the city's developers. As noted, the city's *product* pricing would reflect the value of the investment that has gone into its development. In this line of argument, it becomes an exclusive development for the minority elites and wealthy international investors. It translates that projections for low- and middle-income housing units within the emerging city are not realistic given the elitist nature of its development. According to the Nigeria property centre, land in the EAC costs around $2,000 per square meter. In the local currency estimate, a plot of land costs about N1.5 bn (Nigeria Property Centre on https://nigeriapropertycentre.com/for-sale/land/lagos/eko-atlantic-city/showtype). This pricing is far outside the reach of over 90% of Lagos residents. Notwithstanding, the city utilises a public good (the Bar Beach area) and there could have been some *realistic* provisions for benefits in the overall public interest.

Furthermore, the city's plan for an independent infrastructure system is a *new* approach toward enclave infrastructure provision in Lagos. The city aims to achieve infrastructure autonomy and functional efficiency from conception and design to built reality (e.g. the construction of underground drainage and sewage systems and an independent power plant), setting it apart from existing enclaves. This independent infrastructure plan is backed by private investment and international collaboration to achieve a world-class, smart city. Nonetheless, empirical analyses show some cogent issues. For instance, there are standard discrepancies in the length and road capacity of Eko Boulevard which connects the city to the Lagos metropolis via the Ahmadu Bello way. It translates to a need for infrastructure upgrades in the adjoining road connections. However, Lagos' low level of infrastructure investment does not guarantee the feasibility of such "complementary" infrastructure investment to avert traffic and circulation issues. Also, there are integration issues concerning traffic volumes and circulation between the EAC and the Lagos metropolis. Given that the Lagos metropolis already struggles with incessant traffic complexities, the additional population and commuters living in and accessing the EAC potentiate the need for alternative connections between the EAC and the Lagos metropolis (as further explored in the next chapter). Across the board, Lagos' urban growth and development input has not translated into quality infrastructure service provision. Since infrastructure is said to promote and sustain economic activities and trigger urban prosperity (Li et al, 2018), it could be projected that improved infrastructure investment could help in

improving the socioeconomic realities of the people. However, the current realities show that self-provisioning among the high-income class is on the rise.

Conclusively, a critical examination of the issues of the EAC's planning, implementation projections and development realities shows a knowledge gap concerning the interests at stake. That is, there is a need to clarify the question: *In whose interest is the EAC*? Initial empirical and theoretical assertions establish the aspirational projections of the emerging city and the development realities of its infrastructure plan (independent provision and management). Based on the preceding, empirical findings and assertions on what interests are of benefit to what groups or aspects of life and living in urban Lagos should emerge. In addition, since the EAC projects a different approach to infrastructure development in Lagos, there is a consideration of the changing ideals and approaches concerning urban infrastructure provision and management. The next section examines these issues in the context of urban management outcomes and drivers of the enclave urbanism phenomenon.

6.3 The EAC, *elitist* interests, and changing urban development ideals

The preceding sections of this chapter have shown that the emergence of the EAC is characterised by development projections and realities that are subtly contradictory concerning its urban *benefits* and perceived *consequences*. One of the resonating concerns for such a premium city is that it does not reflect the local characteristics and peculiarities of the majority in urban Lagos. Most of the project adverts and descriptions (for example, see project video on https://www.ekoatlantic.com/media/video-gallery-2/) show that the primary targets for residency in the city are the high-income urban elites and wealthy foreign nationals who have invested in the prime city. Also, the city's image projections capture an international city that caters to the needs of the super-rich in terms of its residential, commercial, recreational and tourism components. While its *elitist* nature could be admissible given the volume of capital investments that has gone into the land reclamation phase, there are queries from urban management assessment, the changing narratives of infrastructure ideals, and implications on urban planning, among other issues and concerns. These reflect the emerging EAC's incongruencies and a lack of clarity on the interest(s) at stake, given that the project's consideration and approval processes were not open to public consultation and stakeholders' participation. In light of these, the two subsections below discuss the summations of interests: A push toward elitist urbanism and the changing urban development and infrastructure

approaches. From the two sub-sections, empirical analyses suggest that the EAC tends to serve elitist interests and that its emergence has made Lagos's sharp sociospatial disconnect more obvious. Thus, there are resultant issues of urban sustainability. The last subsection concludes this chapter.

6.3.1 The EAC in the realm of *elitist* urbanism

The emergence of the EAC reinvigorates concerns that the *bypass* of other classes of residents across the Lagos metropolis is on the rise. The emphasis of this assessment is on inclusiveness (between the premium spaces and other communities) but not the institutionalisation of elite-driven urbanism. In the context of EAC and the realities of urban Lagos, it is considered a project that lacks consideration for urban equity. It translates that "if non-inclusiveness, inequity and inequality are considered, then, it [the EAC] may not be sustainable" (Interviewee 13). However, issues and debates on the interests fuelling enclave urbanism in Lagos started in the early 1990s but have today gained more attention. Private initiatives characterised by self-provisioned infrastructure arrangements have increased enclaved development within the same period (Lawanson, 2021), especially along the Lekki-Epe expressway. These urban development outcomes demonstrate that the emerging EAC, like other premium enclaves, leaves much to be desired concerning its reflections on the local cultural nuances of urban Lagos.

> What I think is that more frequently, urban decisions are taken by those who do not understand the spatial consequences of their decision-making. We have a lot of development decisions that are taken purely from economic returns interest and the spatial context is not considered. A lot of the aspirational infrastructures like the Eko Atlantic City were decisions that were taken by international investment firms. They were not particular about solving problems on the African continent but just about (in collusion with African governments) raising these utopian fantasies of what a city should be with no element of local cultural nuances. (Interviewee 1)

The EAC's neoliberal characteristic makes consideration of *local* socioeconomic and cultural peculiarities difficult. Nonetheless, the project's development initiation is not without some input or *benefits* that stem from its locational attachment with the Lagos metropolis. Expressly, by appropriating the Lagos Bar Beach, the developers of the EAC have denied twenty-three million Lagosians from enjoying the commonwealth of the beach while seeking the interest of

its projected [240,000] residents. It translates to the commercialization of a public good in the interest of elitist urban development input.

In addition, irrespective of its contribution to the housing stock of Lagos, the EAC's emergence also deepens the sense of exclusion within its area. It is even worse for some residents, displacing people (predominantly low-income earners) who lived around the Bar Beach area before the land reclamation. They comprise natives and migrants from neighbouring West African countries who had settled there to participate in informal survival activities. One of such consequences is increased homelessness among the poor and vulnerable:

> These people that have been evicted are scattered over Lagos state, and it is back to increasing homelessness in a way and increasing social vices. So, I do not think it is sustainable because people's livelihood is being affected, and you cannot be fighting homelessness and at the same time increasing it. It is still going to increase economic and social inequality at the end of the day, and we are back to the same thing [issues of rising acute socioeconomic disparities across urban Lagos] over and over again. (Interviewee 6)

Thus, the emergence of the EAC creates a problem the proponents set out to solve: it creates new homes for the urban elites and wealthy foreigners while displacing the urban poor. Here, the victims are the low-income residents around Bar Beach, while the benefactors are the elites that [would] reside in the emerging city.

Furthermore, the EAC's distinct infrastructure system, although privately funded, has triggered calls for the government to upgrade or standardise the existing infrastructure base to counter its urban infrastructure imbalance. It is because, in recent times, the Lagos state government tends to support self-funded infrastructure services in emerging organised urban spaces/enclaves while infrastructure upgrades and development in the larger metropolis have been suboptimal. Hence, the emphasis is that there is a need for an appraisal of its current funding approach concerning sociotechnical infrastructure systems (such as road networks, water supply systems, and electricity services).

> We need a different structure from what we have at the moment to be able to deliver infrastructure service at a quantum level of efficiency required for this huge megalopolis... So, when you are talking of restructuring, it is also required here and not just talking of devolution of powers but coming up with a structure that can work, that can deliver the quantum of service and run and maintain it effectively. For this huge

> population in this tiny piece of land, the current (infrastructure funding and provision) structure cannot deliver it. (Interviewee 20)

The government could also explore different infrastructure funding options to address the infrastructure imbalance in the city. It is necessary because the emerging EAC and most premium enclaves in its urban space are developed with private infrastructure funding arrangements.

Clearly, from the above discussions, the emerging EAC amplifies the need to review Lagos' urban development approach, especially concerning infrastructure provision, since the project further reflects the shift towards elitist urbanism. Perhaps, regardless of their private development models, premium enclaves could be regulated to accommodate the sociophysical characteristics and realities of the urban centres they emerge. On the broader enclave urbanism debate, the case of the emerging EAC strengthens the call for balanced and inclusive urban development initiatives and inputs that potentially provide short- and long-term benefits across all socioeconomic cadres (Amin, 2013). The expediency of this urban approach cannot be overemphasised, given that infrastructures have "always been foregrounded in the lives of more precarious social groups - i.e. those with reduced access or without access or who have been disconnected; as a result, either of socio-spatial differentiation strategies or infrastructure crises or collapse" (McFarlane and Rutherford, 2008; p.371). Another consideration which is an offset of elitist development tendency is the changing urban development and infrastructure approaches. The following subsection examines the issue(s).

6.3.2: The EAC and the changing urban development and infrastructure approaches in Lagos

Urban development proposals, initiatives and management have solely been within the confines of the Lagos state government after the end of colonial rule in 1960. However, there is a shift in the trend of its urban management approach in the mid-1980s into the early 1990s when the state government commenced urban land allocation for private development (Lawanson, 2021). A notable outcome of this shift in urban development paradigm is the Victoria Garden City (VGC), developed in the early 1990s and located along the Lekki-Epe expressway. Today, VGC represents a model for private enclave development in Lagos. Like the VGC, emerging enclaves could guarantee their success and sustainability in the long run by adopting a private development initiative, given Lagos' development outcome realities. This submission is based on experiences in the state's planning and urban development activities.

Like the other "successful" premium enclaves, the emerging EAC represents a different infrastructure provision approach in the context of Lagos: design, construction, and management through a private arrangement. Distinctively, the EAC is a high-class city infrastructure project expected to attract businesses and foreign investments, as well as boost the urban profile of Lagos. The government's role is either minimal or does not exist in this approach toward infrastructure provision. It represents a shift from the norm and poses issues and considerations for and to urban planners and other stakeholders across Lagos. In light of the preceding, there are concerns about the realities of the management of urban development in Lagos (as well as other prominent cities in Nigeria).

> Lagos has had a mayor in the past - Olorunnimbe. Lagos city council had a mayor. When the military came, everything got messed up. So, today, who is in charge of our cities? All the issues we have been talking about are the symptoms of the fundamental failure (of urban management). Nobody is in charge. If somebody is in charge, why are you expecting water, drainage, and electricity? So, the fundamental problem of Nigerian urbanization is the absence of clear-cut governance! Who is in charge of Nigerian cities? (Interviewee 30)

Although there is the MPPUD and its subsidiary agencies in charge of urban development control and management in Lagos city, the concerns about who manages the city stem from the realities of institutional inefficiency concerning the administration of the MPPUD. For instance, the MPPUD as a ministry of the Lagos state government is headed by the honourable commissioner who is appointed through a political process for four years. This translates that different administrations may have different priorities concerning development policies and goals.

> Some "policy people" will make those decisions, and the town planner can only implement the philosophy and the policy position of the government. That is the dilemma of the town planner or the physical planner. He takes responsibility for the decisions he did not make. What do I mean? A governor comes, and he says "I want a GRA"! In most cases, he has even determined the location he wants it. He has told you. He just wants you to go and put your pen on paper and please him. (Interviewee 30)

The above quote implies that, within the Lagos context, political interference is a major issue affecting physical planning input and policy outcomes concerning the management of its urban space.

Undoubtedly, the EAC's private infrastructure development and management model is an escape strategy to beat the inefficiencies of the Lagos system. If the city is planned to run on the essential services of Lagos (say, water supply, electricity service provision, drainage and sewage systems), it would flop due to service inefficiencies and interruptions. In addition, there are plans for a centralised approach to the provision of security and new approaches to experiencing the city sphere:

> The majority of buildings that we are going to have in Eko Atlantic City are not going to have fences so that the building occupants can interact with each other. And then, we encourage walking in the city. And in situations whereby we encourage walking, there is going to be protection measures in terms of security... Because we are building a smart city, we want to encourage a situation whereby people can interact well without being isolated. (Interviewee 12)

Thus, the EAC's mixed-use (residential, commercial and recreational) development pattern prevents long-distance travel for essential/basic services and activities. In essence, residents' use of vehicles to access basic services is eliminated. The preceding amplifies the EAC's template for private infrastructure provision and presents a new approach to city development in Lagos. However, empirical analyses reveal some concerns. For instance, there are concerns about whether the city can maintain its standards, given Lagos' poor urban management performance and the subtle complexities of agreement concerning the development and management of the city.

> The EAC derives its funding (income) from residents and the parent company managing it can only pay a portion to the government as taxes (that is what it is in the agreement). You will discover that they (the management company) have to fund the maintenance of the city. Yes, maybe they pay taxes but eventually, they will start talking about the fact that they pay taxes so government must find a way to do something (if/when the city starts to "fail"). How do we sustain it (the EAC) when the government and decisions (about the city) are at parity? (Interviewee 18)

The above quote translates to two major concerns: a potential development logjam arising from financial issues and or the financial responsibility of maintaining the city in the event of a physical development crisis triggered by a lack of maintenance practice. In light of these concerns, interviewee 2 notes that "most African countries lack maintenance culture. Let us wait for a few decades and see what will become of the EAC". The success or otherwise of the EAC project is open for future research since it is still an emerging entity.

6.3.3: Reflections and Conclusion

The analyses discussed in the above sections present findings that answer the second research question of this study. They establish narratives and submissions on the city's planning, implementation, projection, development and the realities of an independent infrastructure system. Evidently, the case of the EAC shows an urban intervention imperative. It translates that urban enclaves are not necessarily inexpedient for addressing urgent urban issues. In this case, the EAC provides an environmental solution that sustains other parts of the city. Among other characteristics of the nature of its development, its neoliberal approach, which translates to less state input and control and more prerogative for development initiation and infrastructure investment by private developers, guarantees the availability of funding, management structure, and effective physical development coordination.

Empirical findings provide submissions that validate the first hypothesis of this chapter: *the EAC's independent infrastructure plan is necessary and practical given its planning and implementation approach.* Implicitly, the initiators of the EAC resort to an independent infrastructure system to achieve and sustain its high-class development. In light of this, the independent infrastructure development approach is practical and expedient considering the realities of infrastructure funding, development and management in the Lagos urban context. Experiences from some of the existing premium enclaves also support the narrative that the city's survival is threatened if it relies on the Lagos infrastructure base. Thus, within the Lagos context, private infrastructure arrangement is a sine qua non to the structure and functionality survival of the emerging city. In addition, the emerging enclave boosts the Lagos megacity image through its smart city concept. In line with Cain's (2014) submission, the EAC (despite its neoliberal characteristics) serves as a necessary input for the survival of urban Lagos. Its realities transcend the city's inceptive ideologies and could potentially incentivize the Lagos government to initiate strategies that will balance urban development across the board. Moreover, in the last two decades, the Lagos state government has embraced a public-private partnership agreement to provide some infrastructure in the city. A notable example is the Lekki-Ikoyi link bridge that connects the Ikoyi axis to the Lekki-Epe corridor. The government has consistently argued that it could no longer *fully* fund capital-intensive infrastructure given dwindling revenue (Interviewee 5). Given this reality, the EAC's private financing model is expedient.

Nonetheless, empirical analyses validate the second hypothesis: *the EAC's development policy is not in the interest of the Lagos urban poor majority.* All things considered, the emerging premium enclave, like others in Lagos, promotes elitist interests. It is a capitalistic and non-inclusive development approach that potentially decentralises urban planning and city management approaches in Lagos. Despite benefitting from an existing public good, the city offers less to the urban poor majority of Lagos. That said, the EAC's development conception and adoption process lack input from necessary stakeholders. Concessionary agreements had been reached with the developers when the project was announced in 2006. Consequently, the findings of its decision-making processes are largely missing from the outcomes of the interviews. The broader implication is that the majority of urban dwellers have been sidelined in their right to contribute to and participate in development and development activities.

By and large, the EAC also portrays the exclusionary development realities of Lagos. The development policy is biased, mostly for economic motives. Moreover, the city's *new* infrastructure system will profoundly affect urban Lagos' general land use patterns. Since most premium spaces are usually located at new sites or boundaries away from the existing poorly organised centralised spaces, they affect or alter land use patterns because they are usually not synchronised with existing land use plans. In most cases, they get fast-tracked approvals, and in some instances, their construction activities may have commenced before their development proposal documents are approved (Interviewee 26). The "development before planning" approach, which is largely influenced by political connections and favouritism, characterises Lagos' physical and urban development approach (Interviewee 2, 26).

Comparatively, the EAC's promises of boosting the Lagos megacity through increased foreign direct investments and tourism as well as its green city components distinguish the emerging city from most existing premium enclaves. However, the EAC presents sharply contrasting realities when compared to the living and infrastructure patterns in the other parts of the Lagos metropolis. It is such that, according to some interviewees, the emerging city is tagged "Dubai" in Africa (Interviewees 3, 5, 13, 16, 25). Beyond this, a detailed comparative assessment between the emerging EAC and the case study premium enclaves establishes that the EAC is bigger in development scope, financing, management structure, and infrastructure reality, as presented in table 6.1 below.

Comparative assessment between the emerging EAC and the case study premium enclaves in Lagos		
s/n Indices	**The Emerging EAC**	**The Premium Residential Enclaves**
1. Projections, Motives and Aspirations	The EAC project was conceived as an environmental protection strategy to save the Lagos shoreline. Beyond that, it aims to become a prime mixed-use smart city within the African continent, targeting international investments and tourism. The city propels the megacity image of Lagos.	Across the board, the premium enclaves are constructed to provide ideal living spaces that guarantee urban safety and an ideal physical environment. They are usually occupied by high-net-worth individuals. In the case of the state government enclaves, they were created to provide housing for high-ranking government officials and other residents of Lagos.
2. Development and Management Structure	The EAC is independently planned, designed, and implemented through a private development initiative. It is a neoliberal urban development with minimal state input and vast potential for capital investments and returns. The city's development is managed by South Energyx Nigeria Limited.	The development of the various enclaves is in line with their ownership. Management and governance are through professionalised management organisations (e.g. VGCMC and BIPORAL) or organised resident associations recognised by the state government (e.g. Omole Phase II CDA and MRA).
3. Infrastructure Funding Approach	The infrastructure system of the EAC is privately funded as a collaboration between selected local banks and a group of international investors.	Infrastructure is funded through financial contributions to the central account. Residents pay monthly and or yearly charges for infrastructure service maintenance and or construction. Nevertheless, there are occasional interventions from the government.
4. Infrastructure Provision Reality	Standard underground sewage and drainage systems and a well-connected road network system with solar-powered street lighting. The power station is under construction. Hence, the city is currently supplied by Eko Disco through a premium arrangement.	Relatively standard and functional infrastructure and services (e.g. road, water supply). Banana Island is the only premium enclave with a central sewage system. There are premium agreements for some services (e.g. electricity supply)

5. Institutional Link	The development team has a memorandum of understanding with the Lagos and federal governments of Nigeria. Issues such as development scope, roles of the concerned parties and concessionary agreements are captured in the MoU.	The management team have institutional affiliations with relevant government ministries, departments or agencies. Specifically, Banana Island has connections with some federal ministries such as power, work and housing.
6. Physical Planning and Development Control Approach	The planning department of the EAC has the prerogative of overseeing development control activities within the city. However, the development team liaises with the Lagos state government through the MPPUD for approval of proposed developments. The EAC planning team can not approve development proposals.	There is a physical planning/development committee/team that vets development proposals before forwarding them to the concerned ministry, department or agency for approval. Development control is by the MPPUD through the relevant agency. Banana Island has a bi-institutional reality concerning the regulation and control of physical development.
7. Land Use and Development Approach	The EAC promotes mixed-use vertical development. For instance, a building can have both residential (top floors) and commercial use (lower floors). It ensures the efficient use of the city's limited land area.	The premium enclaves predominantly promote low-density residential development. Nonetheless, there are provisions for other land uses within or at the outskirts of the enclaves - as the case may be.

Table 6.1: Comparative analyses between the EAC and the premium enclaves. (Source: Author, 2023)

The comparative assessment in table 6.1 above establishes that the EAC development transcends the underlying motives sustaining existing premium enclaves. That is, beyond the quest for urban safety, security, and an organised physical environment with better infrastructure experiences, the EAC's development adopts a mixed-use city infrastructure to sustain its intercontinental projections through international funding. The assessment further strengthens the argument that the EAC takes enclaving in Lagos to an unprecedented level, thereby consolidating the spatial influence of the city's upper-class elites.

Conclusively, empirical analysis has shown that infrastructure-induced urban fragmentation is based on complex dynamics depending on the specific urban context. In Lagos, existing and new premium residential enclaves continue to influence the spatial dimensions of its urban structure. This outcome is majorly in the quest for infrastructure stability and a better urban experience. It has been explored in chapter five and this chapter (exploring the planning,

implementation and development realities of the emerging EAC). However, the realities of infrastructure components in the EAC in relation to urban Lagos need to be explored. It is concerning how they define criticality in demand, supply and availability, and accessibility. Ultimately, the manifestations of these outcomes will be used to assess urban sustainability issues in Lagos using identified social elements. It is presented in the structured sections and subsections of the next chapter.

Chapter Seven

Infrastructure, Integration and Urban Sustainability: Exploring the Context-Specific Issues of Enclave Urbanism in Lagos

7.0 Introduction

This chapter analyses infrastructure (issues of provision, functionality, integration) and its relation to urban sustainability by exploring the dynamics of factors and forces at play in the Eko Atlantic City (EAC) and the general Lagos context. The chapter explores how the current realities of infrastructure provision arrangement translate to urban sociospatial sustainability from a context-specific perspective. The methodological approach is based on the analyses of available infrastructure documents/profiles (the EAC and Lagos) and residents' and experts' narratives from semi-structured interviews. It entails drawing empirical inferences to establish the realities of urban sustainability concerning the interrelations of enclave urbanism and infrastructure provision approach and management. Analyses are based on transport, electricity and sewage infrastructures. Other types of infrastructure are also discussed in some instances. The chapter also identifies and analyses issues of concern to Lagos stakeholders in the development of exclusive space and infrastructure (in the EAC) from social sustainability context. Contextually, the analyses presented answer research questions three and four: *What are the issues of concern in the emergence of the EAC to infrastructure provision and integration in Lagos?* And, *In which way does exclusive infrastructure provision as a manifestation of enclave urbanism relate to social sustainability issues in the Lagos urban context?*

Social sustainability is a socio-spatial construct, which reflects the difficulty of separating social activity and interactions from the physical setting in which it takes place. The assessment of the concept of social sustainability in chapter 2 (section 2.2: 2.2.1 – 2.2.2) reveals that the essential elements of social sustainability are entrenched in the people: living, interactions and experiences of opportunities in their settings, irrespective of socioeconomic status. On this basis, the key identified elements of social sustainability are adapted into the context of this study even though they emerged out of the global North paradigm. It is because sustainability is not restricted or entirely defined by geographical peculiarities. After all, sustainability also concerns meeting human needs and putting mechanisms in place to eliminate systemic degradation of essential aspects of ecological and social systems (Missimer, 2015). However, this research recognizes and clarifies that different contexts have different structural

realities and that adopting elements from one context to another requires careful consideration of how they can work. This chapter focuses on the social aspect of sustainability relating to spatial interactions and outcomes.

A look at a city's infrastructure and service networks goes a long way in indicating investment priorities, opportunities available to people, and the state of the economy (Agunbiade and Olajide, 2016). Lagos' experience of socio-spatial segregation has been mainly along the lines of access to basic infrastructure and services. Hence, a case worthy of research concerning how factors, forces, and elements of urban enclaving in Lagos dictate infrastructure outcomes and their resultant urban (socio-spatial) sustainability issues. This chapter is divided into three subsections to address critical issues of concern. The first subsection provides a perceptional analysis of infrastructure in urban Lagos and integration issues concerning the EAC. It concludes with a reflection, capturing what defines *criticality* in the Lagos context and how land use harmonisation is necessary for infrastructure integration. The second subsection examines enclave urbanism in Lagos concerning infrastructure provision and sustainability issues through identified factors, forces, and elements: land use management, sociospatial reorganisation, and infrastructure funding issues. Here, the focus is on how the (private) infrastructure approach (in premium enclaves) results in urban sociospatial sustainability issues within the Lagos context. The last subsection presents the lessons and concludes this chapter.

7.1 Perception analysis of Lagos' (enclave) infrastructure provision and issues of integration

This section evaluates Lagos' urban development and its infrastructure and analyses its integration issues, focusing majorly on transport, electricity and sewage using empirical data from interviews and documents. Lagos' infrastructure is, by and large, suboptimal and grossly inadequate. The population exceeds available infrastructure, manifesting in a push and pull and resulting in decay and inefficiency. Consequently, the emergence of the EAC has strengthened the call for a review of Lagos' urban development and infrastructure approach. A major underlying issue of consideration in this line of argument is a general lack of *philosophy* in the city's urban planning and spatial organisation approach, which is sometimes in the interest of capital gains as in the case of the emerging EAC.

> As long as we don't have a philosophy for our (physical) planning, then, definitely, we will head nowhere. There is no way our nature of planning within the context of Nigeria

> will address the urban poor because our planning lacks drive. No driving force, no philosophy! It is not just about spatial design. Planning is strictly driven by philosophy - even in the advanced world. Our case should not be an exception to the rule. Our type of planning here is more of spatial intervention and what we need within the context of Africa is more than spatial design. We should incorporate into our planning system what is called philosophy that will drive spatial design. (Interviewee 4)

In light of the above quote, empirical analyses show that Lagos' physical development and infrastructure *philosophy* is, by and large, proposal-driven and is rarely guided by spatial principles or policies adopted over a given term. That is, there is no actual implementation of short, medium or long-term policy guiding the city's spatial development and organisation. A resultant outcome (as noted in chapter six) is its development-before-planning case, where development activities sometimes preceded the issuance of approvals. In turn, Lagos' spatial development is characterised by a widespread horizontal urban sprawl that inadvertently ignores its limited land area. There is an emphasis to address the challenge.

> People must sit down and say: this is the way we want this issue (of urban development) to be. Let us put amends to sprawl. We must introduce a city wedge, and then start going vertical in some areas. Since people are still coming (into Lagos), we would better create a town for them like in Ogun state - a satellite town. As it is now, we operate a day-at-a-time (urban development) approach. It's a stomach philosophy we are operating now, which is the hallmark of (the current city) regulators. (Interviewee 2)

Given the need for a philosophy-driven urban spatial planning approach, the essential elements of consideration precede such an approach. For instance, a population and neighbourhood analysis input is essential to capture the reality of infrastructure adequacy, establishing the infrastructure demands relative to location and population (for example, per local government or senatorial district versus the entire provision) instead of the government's predominant piecemeal approach. A one-by-one evaluation is presented in the following sub-sections, beginning with transport infrastructure.

7.1.1 Infrastructure in Lagos: An empirical analysis of perceptions

There has been a steady increase in road transport infrastructure investment in the past three decades. Specifically, more roads and bridges have been constructed to improve intracity connection. A significant input is the introduction of the Bus Rapid Transit (BRT) system across

Lagos. Recently, this scheme has been expanded, as seen in the construction of major terminals across the metropolis and the importation of several transit buses to improve mass transportation. Despite these interventions, there are existing inadequacies in transportation facilities. A major point of emphasis is that the current transportation system (which is largely characterised by a seemingly disorganised informal "danfo" network) is considered too rudimentary to move people and goods seamlessly within the city.

> The transportation system has to be a mega transportation structure, not the so-called high-capacity buses; that is not the solution. You need solutions that will move a few million people very efficiently daily, and that does not exist. So, we can build all the roads in the world, but the fact is that that is not the solution. You need to have a real proper mass transit system, which we do not have. (Interviewee 20)

The above quote highlights the imperatives of an efficient mass transit system across the city. Notably, before the introduction of the BRT scheme in 2008, the majority of residents (non-vehicle owners) across the city relied heavily on the informal bus transport system for daily commuting. However, the introduction of the scheme transformed public transport in the city. For instance, the transit buses have dedicated lanes - spanning about 35 kilometres. It makes commuting seamless and faster, especially when there is vehicular traffic in the regular lanes. Presently, the bus scheme commutes about 400,000 passengers daily (Otunola et. al., 2019). Nonetheless, given the present demographic realities, the BRT system is insufficient to cater to daily commuting in the city. Some issues persist, despite efforts to improve road transport infrastructure. Informal transport services (including *danfos*, tricycles and minibuses) still make up about 70% of motorised transport in Lagos (Otunola et. al., 2019; Interviewee 26). Also, empirical analyses show that the most recurring issues are endless traffic jams, poor pedestrianised road design, and a general lackadaisical attitude among vehicle drivers.

> Transport? Well, in greater Lagos, I see a crisis: endless traffic jams, no (pedestrian) walkways, and the so-called regionalism is not there. I know that an attempt is being made to bring in a light rail system but we have not seen the impact. The endless traffic is still there... that is under transport. (Interviewee 2)

Besides the aforementioned, there are barriers to standard road network expansion across the metropolis because of the city's limited land area. For instance, there are cases of compulsory land acquisition by the government for road expansion projects. However, some projects experience delays due to (ongoing) litigations caused by compensation issues to affected

property owners, which are usually marred by irregularities, delays and corruption (Interviewees 18, 30).

In addition to investment in road transport, the government has also invested in water transport services (ferry services) in the last two decades to improve transport connections between Lagos Island and the mainland. The intracity rail connection has been under construction for almost two decades, reflecting a lack of willingness in the government's "intentions" toward improving transport services in the state. Expectedly, there are calls for investment in rail transport to reduce the daily traffic *commotion* created by overreliance on the road transport system, given that "there are more vehicles than the length of road coverage" (Interviewee 20). Consequently, there is stress and strain on available road transport networks, resulting in infrastructure and circulation inefficiency.

> So, we have a lot of grounds to cover in terms of transportation facilities. And it is the model that we are running. I think we have been shying away from investing in rail and it is either because of the cost (or willingness). We are not just getting it right on how to go about moving people around Lagos and I think the major investment should be on the rail. Rail (connection) either around the core or around the peripheral areas, we just find it difficult to fix that. The type of transportation system we run is too rudimentary to make the movement (of people) to be seamless within the city. (Interviewee 9)

Consequently, as a survival strategy and to meet their urgent transport needs, most of Lagos' non-vehicle owners patronise the informal road transport operators (popularly called *danfo*s) given their availability and accessibility. Nonetheless, the *danfo* system has recurring issues of safety and poor service quality. It is predominantly run by untrained personnel, is largely disorganized, and tends to reinforce poverty (Otunola et. al., 2019). There is thus the persistent issue of an inefficient and uncoordinated transport network within the metropolis.

Furthermore, access to electricity largely depends on location. It means that enclaved spaces and specific parts of the metropolis have more stable access to power than residential areas outside the metropolitan area or in the peri-urban interface. The electric power supply is primarily influenced by factors and socioeconomic forces such as the ability to pay (for the premium service agreement), the concentration of economic activities, productivity, and infrastructure availability. However, the willingness and ability of consumers to pay for electric supply services are key considerations on the part of the distribution companies.

> That is what I mean by "we prioritize our distribution". Of course, when you see some areas that you feel they can consume and pay for, every businessman will like to sell his

> product in that area. It is natural. We (EKEDC) just identify such people and push our supply towards them. (Interviewee 19)

The above quote shows that the electricity distribution company prioritises wealthy groups or residents in its service delivery. It counters the realities of a constant supply of electric power across the board, given the sharp socioeconomic variations across the Lagos urban space. In light of this, there are contrasting arguments on the realities of premium electric service to wealthy enclaves and some other parts of the metropolis, giving rise to some complexities in electric supply arrangements. While the Discos argue that the premium electric service supply arrangement to enclaves does not affect the quantity and duration of power supply in other parts of the metropolis (Interviewees 19, 27), residents argue otherwise (10, 25, 26, 34, 35). The argument (that the premium power supply to selected spaces within the metropolis is at the expense of other locations) is based on a general electricity generation shortage.

Most parts of the metropolis do not have access to a minimum of 20 hours of electric supply per day, which is the benchmark of a premium service agreement. Given this reality, the National Electricity Regulatory Commission (NERC) categorises locations across towns and cities into bands A, B, C, D and E. These bands have different minimum supply hours per day: 20 hours for band A, 16 hours for band B, 12 hours for band C, 8 hours for D and 4 hours for band E.

> The National Electricity Regulatory Commission (NERC) has mandated all the Discos in the country to come up with what we call a service-based tariff, which is now banding customers into segments, minimum availability and different tariff plans. So, we have classified our network according to the regulator to bands A (20), B (16), C (12), D (8), and E (4). Depending on where you belong, those (numbers in parentheses) are the number of hours we are providing across our customer base. (Interviewee 27)

Payment per hour of supply also varies across the board. Ikeja Electric establish that Bands A and B pay a similar tariff of N53 (as of November 2021), Band C pays around N32, while Bands D and E pay N21.80k. These contrasting hours and supply prices reflect persistent shortages in the demand and supply of electric power across the metropolis.

The situation and approaches towards sewage management across the Lagos metropolis have remained the same over the past five decades. There is a general absence of a centralised sewage management system across urban Lagos. However, a few residential spaces in Lagos operate a central sewage system. According to historical analysis, the FESTAC town is the first residential space (apart from some university campuses) planned with a central sewage system. It was built and commissioned in the mid-1970s during the military government era.

Afterwards, some residential developments were planned to have a centrally managed sewage system (Interviewees 3, 9, 16, 17). They include 1004 estate (developed and commissioned in the late 1970s) and Banana Island.

> There is literally no sewage system (in Lagos) apart from FESTAC town which has a central sewage system. Okay, a few of the private estates are now having central sewage. I know Banana Island has central sewage (management). I don't know too much about it but not many private estates have a (centralised) sewage system. I mean, Magodo is one of the best but there is no sewage system here. (Interviewee 30)

Nevertheless, there are ongoing plans advocated by development authorities and stakeholders that new residential enclave developments are planned with central sewage systems against individual soakaway/septic patterns (Interviewee 30).

Clearly, the preceding perceptional analyses of infrastructure in Lagos show a gap in the demand and supply of infrastructure services. There is a case of inadequacy and inefficiency resulting in rationing and preferential service delivery, which largely depends on the ability to pay. It correlates with a key finding (in chapter five) that interest in enclave living is a subtle outcome characterised by a self-funded infrastructure provision arrangement, inadvertently resulting in some service and provisional complexities. Besides, there is a knowledge gap in integrating services and connections about infrastructure provision. It is examined in light of the EAC and the urban Lagos.

7.1.2 Infrastructure components of the EAC and issues of integration

Broadly, scholarly research on (infrastructure) integration establishes that most strategic approaches towards integration usually focus on one of two types of integration principles. The first is *achieving synergy*: which entails integrating pairs or groups of policy instruments that will strengthen one another to achieve changes or improvements on strategic objectives in the infrastructure system, e.g. providing parks to support a new rail line or bus transit service (May and Roberts, 1995). The second is *the removal of barriers:* which entails using a new strategy to eliminate perceived barriers of an existing strategy that may hinder the implementation of a desirable policy instrument, e.g. removal of toll gates along major urban roads (May et al., 2005). In light of this chapter's discourse, the aim is to examine the possibility of integration by adopting the first integration principle: the synergy of infrastructure connections between the EAC and the Lagos metropolis. It is in line with findings from empirical analyses establishing the argument for infrastructure synergy between the EAC and the Lagos metropolis

since the city cannot be entirely cut away from the rest of Lagos. Beyond the findings in subsection 6.2.3 of chapter six - which focuses on the assessment of the projections and development realities of an independent infrastructure system in the EAC, this subsection particularly examines the details of its infrastructure components and corresponding issues of integration. The focus is on transport infrastructure and its integration, given that electric and sewage infrastructures can be independently built and operated without any interaction with the central Lagos service.

Fundamentally, spatial variation in the pattern and quality of Lagos' infrastructure already exists. Nonetheless, empirical evidence (chapter 6, subsection 6.2.3) suggests that an independent power generation (electricity) and sewage system is achievable in the EAC.

> Yes, an independent infrastructure system is possible. Take, for instance, electricity... If you are doing a private enclave, it is difficult for you to want to integrate it into the public (infrastructure) service. The comfort, enjoyment, satisfaction and maintenance culture go with the wind. So, no reasonable estate developer will venture into any development taking the government as a provider of infrastructure services. (Interviewee 18)

The EAC also incorporates the components of a sustainable green city in its design (Interviewees 12, 14, 24), as summarised under four points: (a) It has a lot of green components - a very high-density green provision for micro-climatic control. In this regard, over 200,000 trees have been planted in the city; (b) The roads in the EAC were built purposely for sustainability - the materials are not coal tars or asphalt. Paved concrete interlocking blocks were used to pave all the roads; (c) There is a sophisticated central sewage system that manages domestic wastewater and surface run-offs so that that same water is purified to a hygienic level for consumption. The wastewater from domestic use and offices will be treated to maintain all EAC's greens and fire fighting, and (d) The energy source will be a combination of solar with power from IPP. The EAC's energy will be greener than energy from the national grid.

Beyond the preceding, the plan for an independent power plant project is ongoing. The EAC infrastructure plan captures that the city is designed to run on a dual power generation approach: a dual-fuel plant to capitalise on the availability of natural gas for cleaner emissions; and power generation by solar panels. Solar power generation is in six phases and will generate 1,200KW for the city (https://www.ekoatlantic.com/infrastructure/). In addition, the EAC developers have built a central sewage system. In the broader Lagos context, it is also established that the Lagos state government has directed that all residential enclave

developments with 250 houses or more must have a central wastewater treatment plant (interviewee 15). It allows for a centralised waste management system within these living spaces. However, the reality of centralising waste management in the city is beset by a haphazard physical setting owing to weak urban physical planning regulations and coordination.

The design, construction and workings of the transport infrastructure of the EAC adopt a better standard and approach in its design and implementation compared to the general urban Lagos. For instance, the use of concrete blocks in road construction ensures durability and, less maintenance work is required compared to asphalt roads. Also, it makes the city 2 – 3 degrees Celsius cooler. The road design pattern adopts the use of roundabouts instead of intersections to improve vehicular flow and delays, thereby reducing car accidents and fatalities. It is also projected that such a design reduces carbon emissions by up to 46%. The city's road network also has pedestrian-friendly features such as wide sidewalks and led street lights to provide adaptable illumination such as dimming and emergency lighting (The EAC road transport plan on https://www.ekoatlantic.com/infrastructure/). A summary of the EAC transport plan is presented to establish a basis for analyses:

> A high-speed roadway will connect Eko Atlantic with both Lagos and Victoria Island. Extensive public transport facilities will be further enhanced by an intra-island waterway that extends from east to west, linking the three marinas and all six districts. A ferry system will transfer passengers to the Lagos ferry network. When lightning-fast transit is needed to reach Lagos international airport, heliports can be made available. (Eko Atlantic: The New Gateway to Africa; Page 11)

The reality of the transport plan mentioned above is a network system that depends mainly on intra- and inter-city road connections (see plate 7.1 below for illustration). The transport projection shows that road transport connections are the primary means of movement within the city. In addition, the main intracity public transport option is bus connections that alternate designated stops in the city. An intra- and inter-island waterway transport supports it. A key consideration is that since most residents, domestic workers, business operators, and tourists will transit daily in and out of the enclave, the focus of integration is, thus, on achieving traffic synergy between the EAC and other parts of the Lagos metropolis. In light of the preceding narrative, empirical findings establish the integration of the transport system of the EAC with the Lagos metropolis using a multi-modal approach. It translates into the need for various connecting modes and transport options. The emphasis on multi-modal transport integration is

that since Lagos is already a mono-traffic city with regular movement of people and goods (mainly) by roads, a significant traffic inefficiency may occur if it is not adequately linked to the Eko Atlantic City. The specifics of the multi-modal transport plan are thus empirically examined.

Plate 7.1: Transport options projection of the EAC development. (Source: media on https://www.ekoatlantic.com/media/image-gallery/).

First, there is a demand for a road network connecting the EAC to the Lekki-Ajah corridor. This axis is proposed for connection with the EAC given its recent population growth sustained by an increasing number of residential enclaves and businesses along its corridor. In this line of argument, the projection is that a direct transport connection between the Lekki-Epe axis and the EAC reduces the traffic load on the VI axis (see figure 7.2 below for a graphical illustration).

> And again, the other adjoining infrastructures will be affected and Lagos State will have to spend money on that. It is because to access it (the EAC), you have to go through Victoria Island. If you are coming from the Lekki-Epe axis, the road infrastructure that

you will use to get there will be the responsibility of Lagos State. That is also a factor that, to Lagos State, could be a minus (since they have to construct the road linking the EAC to the Lekki-Epe axis). (Interviewee 13)

Figure 7.1: Lagos major rail network plan (in red and blue lines). (Source: LAMATA).

Already, motorists access the EAC from the Lekki-Epe axis through the Ikoyi-Victoria Island corridor. It results in more traffic complications for the Ikoyi-Victoria Island axis when the EAC becomes a built reality. In addition, there is a possibility of traffic complexities between the EAC and the VI axis given the existence of a proposal for the development of the EAC shopping mall planned in a location that allows access from Victoria Island and beyond. The EAC development team notes that the mall "is going to be one of the biggest malls in Africa. So, it has been located at the periphery of Eko Atlantic City and Victoria Island. It will be at the centre of Eko Atlantic City and Victoria Island so people can have access to all those areas" (Interviewee 12). The implications of the development of a shopping mall in the EAC/VI axes translate to more traffic volume in that corridor. Another background issue of consideration is that, already, the VI axis appears saturated with economic activities. In light of this, the EAC provides an ideal opportunity to link the Lekki-Epe axis to the Island.

Figure 7.2: Graphical representation of empirical projections for transport integration between the EAC and Lagos metropolis. (Source: Author)

Second, a crucial transport integration projection is a light rail network that links the EAC to the centre of the Lagos metropolis to achieve better transport synergy. Precisely, empirical projections emphasise the demand for integrating the ongoing light rail development with the transportation plan of the EAC (Interviewees 5, 26). The existing design for rail transport connects some parts of Lagos but does not extend to the Victoria Island axis (see figure 7.1 above). The Blue line from Badagry to Okokomaiko terminates in Marina, but there are considerations for connecting the lines to the Victoria Island and Lekki axis down to the EAC (see figure 7.2 above for a graphical illustration). It will address the issue of integration and also take care of standard harmonization concerns, as noted:

> Moreover, vehicular movement in that area will need public passenger transport to be able to integrate into the current model of vehicle transport, which is the road. [However], rather than individuals taking their cars, we want to move them by rail (from

> the EAC) to Marina. From Marina and beyond, they can still go by rail through the blue and red lines. (Interviewee 5)

However, the integration of the EAC with the Lagos metropolis using a light rail connection is, perhaps, uncertain given the project's slow pace of development almost two decades after its initiation. There are claims that the political and administrative will to undertake the rail line integration is under par (interviewees 1, 4, 21,31). Moreover, the option requires a financial commitment and investment by the Lagos and federal governments.

> Well, I still don't know how they will finance it but I believe these issues (of integration) would have been looked at in the feasibility study report for Eko Atlantic. But I think... I am told that the BRT (Bus Rapid Transit) and the rail (will connect with the city). I am sure efforts are being made to integrate the transport network of the EAC with the Lagos metropolis. (Interviewee 26)

Alternatively, a Public-Private Partnership arrangement is proposed as a more viable option, given the government's limited available financial resources and capacity (Interviewees 5, 8, 24). Nonetheless, empirical submissions emphasise the *necessity* of efficiently integrating the EAC's transport network with the Lagos metropolis due to the already complex traffic and transportation issues, resulting in prolonged travel time and loss of economic opportunities for residents across the city (Interviewees 21, 26). The emphasis on integration is such that the EAC will attract some population, especially the projected 150,000 workforces who are non-residents of the city. As noted, this potentially complicates transportation in the VI axis which is already saturated with vehicular traffic due to its high number of commercial buildings and activities.

Furthermore, the failure to properly integrate the EAC with other parts of the metropolis can also trigger some socioeconomic consequences. This is in the sense that commuters accessing the VI axis via the Lekki-Epe expressway or the Lekki-Ikoyi link bridge will experience increased transit time due to more vehicular traffic (when the EAC becomes fully operational). It results in a loss of productive time and increased cost of transit for non-vehicle owners. Moreso, another implication of a potential transport crisis in the axis is that people visiting or transiting through the EAC will experience a suboptimal utility of infrastructure. Over time, the demand for physical interaction and connection with that axis through road transport infrastructure will drop or be borne by "willing" users or economic activities. This shows how infrastructure is embedded into other components of the urban system and structure, such as social and economic interactions.

Conclusively, the consequences of proper integration or otherwise of the transport network of the EAC extend beyond its spatial location. For instance, residents in the Ikoyi-VI and Lekki-Epe axes will be impacted by the potential traffic disruptions that could arise. This scenario translates that infrastructure experiential outcome is spatially *contagious*. Since the basic idea connected to infrastructure (self)provisioning in the examined case studies is the quest for infrastructure stability - which partially defines criticality, the EAC can thus be said to shape or influence how infrastructure criticality is experienced or captured within the Lagos urban context. This argument is, more so, based on the reality that the effect of transport infrastructure integration or otherwise becomes a visible daily experience for road users due to increasing dependence - a significant percentage of Lagos commuters heavily rely on road transport. The broader issues associated with infrastructure criticality and integration are discussed in the next subsection.

7.1.3 *Reflections*: Infrastructure criticality, integration and the imperatives of land use harmonisation

The Lagos experience of infrastructure (as explored in 7.1.1) foregrounds knowledge of how *infrastructure criticality* is defined within its context through the lens of bounded rationality. It means that the desire or preference for a privately arranged infrastructure is, by and large, influenced by socioeconomic status. This socioeconomic *determinant* of access to (privately developed) infrastructure is in a quest for uninterrupted, efficient and accessible services - that is, stability. The bounded rationality of infrastructure access and provision could also translate to reduced preference or interest for premium enclaved spaces, given that there are standardised and interruption-free infrastructure services across the metropolis. Thus, decisions about elites' interests and priorities concerning infrastructure provision, which Lagos city managers and policymakers subtly back, could be considered "rational" irrespective of whether such an infrastructure approach decision is in the best interest of the general Lagos urban space or not.

> I think it can also be said to be borne increasingly out of the perceived failure or deficiency in terms of infrastructural provision so that such enclaves when they are created, can be for people of similar socio-economic backgrounds. Sometimes, people of like minds just come together to live together and interact, and this way, because of their privileged socio-economic background, they may be in a better position to leverage

> government assistance for the provision of infrastructure: road, water, electricity and so on. (Interviewee 23)

Given the foregoing, this study argues that the *criticality* of infrastructure in the Lagos context is primarily defined by interruption-free access to services. A major trigger of this reality is the government's struggle to match infrastructure provision and management with population growth. There is, therefore, a case of a functional crisis and failure characterising infrastructure (provision and access) in the Lagos metropolis. One of its consequential effects is urban fragmentation into enclaves and "common" areas. This characterization of infrastructure outcome (in a Sub-Saharan African city) is an important contribution to the KRITIS research within which this study situates.

Significantly, the functional crisis and failure characteristics result in scenarios whereby income status strongly determines the quality, availability and accessibility to critical infrastructure, either through public or private provision. It has, in turn, triggered the interest of the urban elites in embracing the creation of premium enclaves with private funding arrangements for infrastructure provision and management. This lopsided outcome of infrastructure provision shows concerns for Lagos's urban sustainability, given that urban planning as a tool for urban development guarantees accesses to infrastructure services and experience across the board. Moreover, accessibility and experiential outcomes are crucial indices of a socially sustainable environment that could be analysed when assessing physical growth and development outcomes.

Also, in light of the preceding empirical views on infrastructure integration (as examined in 7.1.2), a missing link is the role of land-use harmonisation as a sine qua non to infrastructure integration. It is because emerging and existing developments require synchronisation into the city's layout and land use plans. In the case of Lagos, the emerging EAC necessitates the need for land use harmonisation to ensure smooth infrastructure integration for balanced, coordinated urban growth and expansion while eliminating conflicting or non-complementary land use issues. A justification for this argument is that across the Lagos urban space, physical development and infrastructure synergy are characteristically weak given the prevalence of fragmented plans.

> We do not have a master plan in Lagos. We just have plans for each section in Lagos. But the whole city? Just to look at it from a broader perspective. So, can we have access to some places in Lagos freely without any issues? What is going to reflect a kind of

> city where people will come and will move freely from one place to the other? For example, many people who are working on Victoria Island in Lagos are coming from the mainland. Before they access Victoria Island in the morning, they encounter a lot of traffic and a lot of issues. (Interviewee 12)

The above quote indicates that the presence of a land use plan alleviates accessibility and circulation issues within the city. Further, emerging premium enclaves are not captured by the land use plans in Lagos. This makes their integration somewhat ineffective and practically inadmissible because, in most cases, they are prepared outside of the development context of Lagos, thereby necessitating the need for an operative development plan.

> But the question is, the various development, did they just come up abruptly or they are within a larger (land use) plan and people are implementing them as components? All that you have mentioned, the Banana Island, and VGC... some of them are initiatives of the private sector. So those have existed before. But for the new ones (enclaves), your design must go on with what we call Operative Development Plan because a lot of people are coming up with ideas for new plans to develop small communities (such as the EAC). (Interviewee 8)

The relevance of the foregoing to the development of the EAC is that, while the emerging city has a development plan capturing land use projections and infrastructural development, its integration with the Lagos metropolis requires coordination through a comprehensive land use plan that will harmonise development and infrastructure proposals. Moreover, the integration will affect or impact transport infrastructure stability across the board through the lived experiences of road users. That said, infrastructure reality does not only encompass their technology but also their social, cultural and economic impacts. This narrative translates to the fact that urban functions and activity demands and interactions between the EAC and the rest of Lagos can be coordinated and or regulated such that impacts are addressed and mitigated through land use coordination. It ensures the functionality and sustainability of urban Lagos. That is, intrinsically, a land use plan is a viable tool to guarantee the urban centre's social, economic, and environmental sustainability. The preceding narrative, so far, echoes one of the central themes of this research, i.e., urban social sustainability. The consideration is how the infrastructure provision (and integration) approach translates to or relates to the key social sustainability indices, as explored in the following section.

7.2 Enclave urbanism and urban sustainability of Lagos: Analyzing the context-specific issues of land use management, sociospatial disparity and infrastructure inequality

The essential socially-inclined elements of service provision and management are availability, accessibility and affordability (adapted from the review of literature in chapter two). These elements are embedded in the core concepts of social sustainability. In light of this, the development of aspirational infrastructures in the EAC further reflects the sociospatial infrastructure inequalities and imbalance in urban Lagos. There is a tendency for international firms and investors to influence decisions and implementation processes largely, as in the case of (physical) development decisions concerning the EAC. For instance, an interviewee, who spoke off the record, notes that one of the reasons the EAC decision-making process is not open for public consultation is that the representatives of the Lagos and federal governments made some development concessions in a bid to secure *funding* for the city. According to the interviewee, some of these concessions, such as autonomous development control activities within the city, could have been contested in a public consultation forum. It is also noted that, despite involving local contractors, key development actions in the city, such as land reclamation and the construction of the revetment, were exclusively implemented and coordinated by foreign firms in a bid to achieve the city's projected standard. This scenario of less state control and more foreign development input in the interest of capital investment underlines its neoliberal status. It, in turn, threatens Lagos' urban sustainability by raising the infrastructure to a level of utopian fantasy with no element of local cultural peculiarities and infrastructural capacity.

As established in chapter two, scholars have continually argued that urban planning approaches - including the provision and management of critical infrastructure - should embrace all three elements of sustainability: economic, environmental and social (Cobbinah et al., 2015). In this line of argument, respondents also share the view that irrespective of the income characteristics of different units of the urban environment, access to basic, functional critical infrastructure should be guaranteed and taken head-on by the government (Interviewees 1, 6, 8, 15, 16, 17). Interviewee 23 notes that:

> The elites can take care of themselves, they can pay for services and infrastructural facilities. So then, (the government) should concentrate the resources on meeting the needs of the lower-class people, and I think in the long run, if that is done, it will also

> pay off for everybody because it will not create a kind of relative deprivation that can cause a feeling of dissatisfaction among the poorer people. For sustainability, I think certainly it will be sustainable because it will be a win-win situation for all parties.

However, enclaving has benefitted urban elites who take advantage of the government's laxity in providing infrastructure. This private arrangement model prompts premium enclaves to exhibit a *cutting-out* phenomenon, i.e., they wall off themselves through physical and regulatory mechanisms to protect their planned physical settings and infrastructure investments from the other parts of the city. In contrast, many people in the Lagos urban sphere are classified as "urban poor" who, inadvertently or not, have been deprived of their right to access basic and functional infrastructure services such as roads, electricity, sewage, and water.

The preceding does not suggest that enclaves cause infrastructure deficiency across the metropolis. Rather, the position of this study is that sharply varying infrastructure experiences within an urban centre are strong indicators of the sociospatial consequences of a lopsided urban physical development input seemingly influenced by elitist interests and ineffective physical development policies. Since governments across the three tiers of administration in Nigeria are constitutionally the primary funders and executors of infrastructure projects, the role of the Lagos state government in ensuring infrastructure equality and upholding the rights to the development of its populace is not overemphasised.

> What are the lessons for us? Where do we start? Well, we need a lot to learn because we are comfortable with building first and then infrastructure later. It is one of the main causes of slums here and it is also related to duality in our land ownership. Here, we say we have formal land ownership through the land use act. It doesn't work! You pay Omo onile but the government also say that their land is gold, so it is very expensive. They will still charge you for infrastructure that is not there, claiming they will provide it. In a place like Lagos, how do we begin to tackle the problem? (Interviewee 26)

Specifically, the problem of Lagos' uncontrolled urban sprawl not only results in unsustainable land utilisation but also manifests in a continuous struggle among residents for a better infrastructure experience, which, in turn, fuels *enclavin*g.

> Population pressure and demographic transformation are moving at such a pace that seems to have tripped government capacity, not only in this capacity of governance but also in its capacity to make provision for the needs of the people. The bigger implication here is that you now see a kind of abnormality informing that attitudinal dimension of

> what we are talking about - the emergence of enclaves. When resources are not enough and the infrastructural facilities are not there to meet up with the expected need as it relates to people's desire to engage in meaningful activities, abnormal tendencies set in. (Interviewee 22)

It is because the government is not able to match the city's urban growth with corresponding (effective) physical planning mechanisms and infrastructure investment to sustain its urban structure and functions. Despite this, the interrelation between infrastructure, integration and urban sustainability presents simple yet intricately intertwined issues that hinge on effective land use control and management. The role of land use plan harmonisation and other factors of urban sustainability in Lagos are discussed in the subsections below.

7.2.1 Land use management, (enclave) development and issues of urban sustainability

An important factor that has contributed to the dysfunctional land use management system in Lagos is the foundational land use disparities instituted during the colonial era, where there was physical delineation and varying access to infrastructure services. The European versus native living space delineation created a lopsided land harmonisation that has become difficult to correct decades later. Nonetheless, empirical analyses show that an effective land use management plan is essential to harmonise physical development and infrastructure development. The emphasis of this study is on effective land use management as a tool to achieve infrastructure integration and promote urban sustainability in Lagos. This finding is critical given that emerging enclaves have layouts usually not captured or integrated into the city's broader physical development plan(s). These enclaves (especially around the Lekki-Ajah axis) utilize a large expanse of land for residential development. Some of these lands were purchased from poor, local farming communities, leading to the fast decline of land availability for urban agriculture.

> Do you see the proliferation of enclaves? Sprawling on lands that we probably should have used for Agriculture... and all of these are happening because the government has not taken a grip on how we ought to live. You know I was talking about land being a fixed resource but our population is increasing. (Interviewee 21)

It also translates to less land for the low- and middle-income class housing schemes due to fast-spreading premium enclaves lacking considerations for inclusive development. Specifically, enclaves consume a lot of space. They have large plot sizes for low-density residential

development. Whereas, low-income residential developments have higher densities. The preceding, in turn, projects the necessity to adopt an inclusive urban planning strategy through effective land use management for physical development optimization, thereby paving the way to addressing crucial issues concerning infrastructure provision. It will ultimately promote inclusion, one of the key elements of social sustainability. There are concerns about land use management and its context-specific infrastructure and sustainability issues in Lagos, discussed below from two points of consideration.

The first is that unguarded horizontal enclave proliferation pressure existing infrastructure. It stretches the length of infrastructure required to service newly developed areas. This infrastructure investment demand thus becomes another contentious issue among stakeholders, including city administrators and policymakers. For instance, assessing the EAC development, interviewee 18 notes that:

> So, regarding the integration, who takes on the construction of Ahmadu Bello way? Federal government? Lagos state government? Public institution? Will they be able to do it to the standard where you can integrate the Atlantic City into it? You can answer that because you know it is not feasible for the government to build a high-class level infrastructure to link this new enclave (EAC) that is run on a commercial basis. It takes money to provide everything there. When you do computations based on all of these, it does not favour the government. These are the challenges of integration.

The above narrative suggests that the commercial interests driving premium developments could determine the government's willingness to invest in infrastructure. However, the argument does not consider the self-funding and provisioning nature of the premium development. Despite this, they pay taxes and development levies to the government. Hence, their right to infrastructure services.

The second point of emphasis is that Lagos is a relatively small city and has a fixed land area, given that it is almost surrounded by water. Like other cities facing physical restrictions, consideration for a vertical urban development model as part of Lagos' physical development policies is inevitable. Contrariwise, the city keeps spreading horizontally, thereby underutilising the limited available land. In turn, subtle land-grabbing activities for expansive horizontal enclave development are the order of the day. There are concerns in light of sustainable urban physical development:

> Now, if we do not bring wisdom into how the land is used, we will actually overrun that land and be tending towards another territory. Do you know what causes inter-tribal clashes in some places? It is just about Land. So, we can not have this limited land and continue to build and build (horizontally). (Interviewee 21)

The current physical development pattern, inadvertently or not, depicts an unsustainable approach to managing urbanisation. Land (as a resource) is drastically depleting and used inefficiently. Consequently, Lagos' land may become inaccessibly expensive at some point. It portrays an inefficient use of land as a means of managing urbanization. Thus, there is a need to recognise that land is a finite resource that could potentially be exhausted by unguarded horizontal development.

7.2.2 Sociospatial disparity and urban sustainability consequences

The institutionalization of enclave urbanism in Lagos and its sociospatial disparity has consequential outcomes translating to urban sustainability issues. As a build-up from the argument concerning the imperatives of efficient land use management in the subsection above, empirical submissions establish that enclaves are better implemented to meet the housing needs of the people across the board. That is, the government can ensure that emerging enclaves serve the interest of all categories of housing demands. Although they target high-income residents in this study context, premium enclaves potentially provide benefits across the board and could become a part of a compact Lagos city if planned, implemented, and regulated according to the development guidelines. There is an emphasis on the infrastructure contribution of enclaves as bridging the gap in infrastructure deficit:

> The private sectors are the ones driving development in all those enclaves and they are providing infrastructure that will match the kind of development they are doing. Of course, every such development must be approved by the government to ensure that it meets the required standards. So, (the development of infrastructure in enclaves) is helpful for the government because the gap created by the government's incapacitation to provide infrastructure is being filled by the private sector. To me, it is more of a positive impact than a negative one because what government could not do, the private sector is providing. (Interviewee 24)

Moreover, the emergence of the EAC ushers in positive socioeconomic benefits to urban Lagos: contribution to housing stock; increased foreign direct investments; creation of a new urban

development template that may be applied in other parts (of Nigeria); and job opportunities for low- and medium-income earners working in the city (Interviewees 1, 3, 9, 10, 11, 12, 23, 29). In addition, expert analysis on the Lekki-Epe axis emphasises that:

> Since the government is also benefitting from this high-class development on that corridor (Lekki-Epe), it supports what is going on in such an area. The government gets taxes and development charges; businesses are coming up, jobs are being provided, etc. So, it is not a development induced by planning but a development induced by demand for it. There is demand for that kind of development along that corridor, and it is where water finds its level that water will go. (Interviewee 24)

Nevertheless, like other premium residential enclaves, the EAC further deepens the already sharp sociospatial disparity among residents in Lagos. A broader concern is that, despite the emergence of high-class residential developments in some parts, significantly larger parts of the city experience urban decay due to neglect. This neglect is attributable to population pressure amidst dwindling resources to provide basic infrastructure services. There are concerns relating to the benefits or otherwise of meeting the needs of the people.

> When you are matching up with the expected needs of the people, there will be healthy growth and development as it affects the city. There will be a sense of serenity and quiet that bothers orderliness, stability, growth and development. If the government does not meet up with the expected needs of the people, ineffectiveness becomes the way. These are challenges that face urban development and expansion, which the government must take into consideration. The government must, by way of using policies, plan for urban expansion and growth as you have indicated. (Interviewee 22)

Lagos' poor socioeconomic indices also strengthen the narrative that the average resident can neither afford to buy nor rent an apartment in the emerging city. At best, they earn income and might be provided with accommodation by their employers, so they do not have to commute daily. This scenario is captured in the United Nations (2018) report, stating that, among other consequences, the failure to control and or effectively manage growth in many cities of the world results in inadequate provision of and access to infrastructure and public services, and the inability to guarantee the minimum quality of life across the board.

The preceding translates to the issue of social inclusion, which could be managed through integration and inclusion by adopting improved development and governance strategy. For instance, the government jointly invests in these premium enclaves by proposing low- and

medium-housing densities within the criteria for granting development approvals. The adoption of a class-inclusive development approach is crucial to ensure that emerging enclaves do not become islands of exclusion:

> It needs a shift in the governance dynamics. It needs the recognition of the informal (economy), and it needs an active response from the government to the needs of the low-income and the lower middle class. It has to be deliberate actions taken to expand opportunities for those particular cadres of society. (Interviewee 1)

In addition, one of the approaches to deconstructing and reducing the manifestations of sociospatial inequalities to the barest minimum is infrastructure investment across the board to address the provisional imbalance in the metropolis. There are possibilities: bridging the gap between the government and the governed through collaborative engagements. The realities and priorities of infrastructure provision can thus be aligned. Eventually, the government prioritises infrastructure development in high-density and peri-urban communities where basic amenities such as roads and drains are either dilapidated or not provided. This way, the enclaves can, perhaps, be integrated into the city system:

> The priority of the government should be providing basic services for other communities and neighbourhoods so that the enclaves can open up to the city. When there is less security threat, when there is more balance economically, and when there is more power, then the enclaves can be reintegrated. (Interviewee 10)

Also, recognising, regulating and supporting the informal economy is necessary, given that about 70% of the working population is engaged in informal activities. The failure to articulate places and processes into the city's planning leads to sustained enclaving, eventually making them even more dangerous than the existing organic buildings, targeting the economic returns rather than the social benefit. Thus, while there are plans for accommodating the development of enclaves, there could also be minimal provisions for the people in the lower socioeconomic cadre so that the city does not disintegrate into units that symbolise sociospatial marginalization.

7.2.3 Infrastructure (funding) approach and issues of urban sociospatial inequality

As earlier noted, the institutionalisation of enclaves reflects the lack of capacity for infrastructural development to consolidate urban growth, resulting in neoliberal tendencies manifesting in the restructuring of infrastructure provision arrangements. Empirical analyses show that the urban development realities of Lagos make privately-funded infrastructure

arrangements an expedient yet intricate outcome. Interviewee 5 submits that the expediency of private infrastructure models stems from the present reality that "the government may no longer be able to *fully* fund infrastructure in the city, given restrictive economic realities". However, urban planning experts believe that a major impediment to infrastructure funding in the Lagos urban centre is the challenge of urban governance. Along this line of argument, different funding models are proposed, such as partnering with the private sector, and or providing an enabling environment for a public-private partnership (PPP) to provide the infrastructure that supports the urban system across the board.

> It is the responsibility of the government to fund infrastructure. Where infrastructure is not available, then they invite the private sector to partner. Now, which infrastructure should the government fund? Which should they partner with the private sector? Which infrastructure should the government just facilitate the enabling environment for the private sector to play? For me, it depends on the citizens' well-being and maybe the ability of people or the willingness of people to pay for these services. So, the main challenge is a governance challenge! How do we make decisions in light of scarce resources? How do we make these decisions so that more people are supported in the urban system? (Interviewee 1)

The imperative of an all-inclusive infrastructure funding model in Lagos is that infrastructure investment decisions must be all-inclusive and sustainable to support the city's population and urban functions. Presently, the experience of PPP infrastructure projects in the city (such as the Lekki-Ikoyi link bridge and Lekki-Epe expressway) has not been all-inclusive given that it only benefits a particular section of the city. Consequently, there are submissions that the agreement of public-private partnership be negotiated to include another P, which is *people*.

> The Public-Private partnership project that is being held in Lagos State is not benefiting those that it should benefit - which is the majority of the populace. So, they (development experts) are saying that, in the agreement of public-private partnership, they need to include another P which is people. So, it won't just be a benefit between the government and the investors. Now, the people are involved which is PPPP. That is the four Ps. That is, the Public-Private Partnership and then you have People. (Interviewee 6)

In this way, infrastructure decisions will not only benefit the government, the investors and some classes of people but will cater to all categories of people, giving rise to the Public-Private-People Partnership (PPPP) maxim. In examining the preceding in light of the emerging EAC,

there are cautions about the failure to articulate an all-inclusive infrastructure development policy:

> The caution we sound here is that while we are building such enclaves, making policies to make people feel what it takes to be in ideal global settings, we should not miss out on the fact that the growth and development of policy planning and implementation should be all-inclusive. (Interviewee 22)

While there are submissions that Lagos' current urban development is in its intermediary stage and its components eventually weave together (Interviewee 3, 10), the infrastructure approach complications and sociophysical disintegration are good indicators of a lack of sustainable urban growth management approach.

A significant consequence of a non-inclusive infrastructure funding model in the Lagos urban space is that it results in infrastructure inequalities. In turn, integrating different city components with varying infrastructure qualities presents standard, circulation, and physical planning complications. For instance, despite being located in the same geographical area and along a major transport route, most enclaves along the Lekki-Epe expressway are not interconnected. Commuters navigating from one enclave to the other on the same axis travel through the expressway before assessing the destination enclave. It is despite being located next to each other.

> The consequence is that they (enclaves) are gated and are not interconnected. The disadvantage (of a lack of interconnectivity), just like we are having in the Lekki axis, is that, when everybody locks their enclave, they lock themselves. Everybody is now thrown into the express. Rather than having what you can call thoroughfare within the estate (from one estate you can go to the other), everybody is thrown out into the expressway and then, you find a way from there to go... (Interviewee 13)

By contrast, connecting trips are eliminated if the enclaves are planned with considerations for integration and interconnectivity. Perhaps, the non-prioritization of interconnectivity between enclaves is due to the desire for self-regulation and exclusivity.

Implicitly, the case of "partial self-administration" concerning physical development control and management in the premium enclaves comes to the fore. Physical planning departments vet development proposals (for instance, in the VGC, the Banana Island and the EAC, as explored in chapters five and six) before presenting them to the Lagos physical planning ministry for approval. It is a case of administrative bureaucracy and an increased cost

of development approvals since both steps of vetting and approval are at a cost to the proponent. Nevertheless, the physical planning departments ensure that there are no complications or absurdities in development proposals before they are sent to the Lagos state MPPUD through the management companies/organizations.

Additionally, spatial fragmentation fuelled by infrastructure imbalance inadvertently results in issues of sociospatial inequality. It has, in turn, increased the sense of (in)security and has continued to push the city's high-income group into residential enclave living (Interviewees 1, 10, 16, 20). It comes with high restrictions on visitors/non-residents. This act is fuelled by the *assumption* that the lower class, whose population continues to rise, know where to focus when there are agitations against poor living conditions and perceived urban inequalities.

> The day the uprising will be against class, there is nowhere to go because we have put ourselves in those places where they can easily map us and attack us ... Why should we say because somebody doesn't have money, therefore he should not go on the tarred road? He does not deserve to get water in his house? He does not deserve to get healthcare access? It is part of the inequalities of economic development, and economists keep looking for solutions to growth without development. (Interviewee 30)

The above quote translates that there is an acknowledgement of the precariousness of enclave proliferation – even among the privileged elites. Within the study context, enclave residents agree on the need for the government's intervention to address the sharp socio-spatial variations and inequalities concerning access to infrastructure and services (Interviewees 10, 18, 21, 22, 25, 26, 30). Thus, a spatially balanced urban environment, especially concerning infrastructure and service accessibility, is in the interest of all.

Conclusively, the preceding narratives make a case for urban sustainability by identifying outcomes and issues presented by factors, forces and elements of urban enclaving in the Lagos urban space. These factors, forces and elements include social class segregation through land use (mis)management, (infrastructure) financing and investment, urban growth (mis)management, and (in)security. They form the basis upon which the institutionalisation of enclave urbanism in Lagos thrives. They also present cases for the urban sustainability of Lagos. Suppose the city is assessed based on the critical elements of urban sustainability (inclusion, accessibility, experiential outcome and equity - in physical development input). This study concludes from empirical evidence that Lagos urban space lags in its sustainability in this assessment line. Hence, there is a case for an urban sustainability appraisal that is all-inclusive and proactive in ensuring that the largely deprived lower- and middle-class residents have

access to essential functional services. Despite private funding arrangements for the enclaves, the government review and adjust its urban development policies to regulate and allow for possible integration with other parts of the metropolis.

7.3 Reflections and conclusion

This chapter has, so far, explored the context-specific issues of enclave urbanism in Lagos concerning infrastructure, integration, and urban management in the realm of urban sustainability. By and large, infrastructure inadequacy across the Lagos metropolis is a reality confronting residents: erratic power supply, congested road networks, a poor sewage management system, and a predominance of self-help approach towards water provision across the homes and residences. Consequently, the high-class residents or elites embrace enclaving with private infrastructure arrangements in a bid to guarantee infrastructure stability: *interruption-free, accessible and providing positive experiential outcomes*. In turn, there is a resultant variation in infrastructure experience across the metropolis, giving rise to a pronounced socio-spatial disparity. Moreso, infrastructure inadequacy has triggered various degrees of self-provisioning. The current realities are captured below:

> You see, all these things are a symptom of (urban) sickness and it also reflects our own (survival instincts) - what we have adopted as our solution to the problem of failure of the state. So, what do we do? Everybody needs self-help. The state has not given me water? I make a borehole. Electricity is not working? I buy a generator. Security is not there? I build a prison [a walled house]. So, the emergence of these places (enclaves) is all part of an effort by people to create a decent living for themselves in the midst of this desert of failed urbanity. (Interviewee 20)

The above quote suggests that, within the Lagos context, enclaves are strong indicators of urban (governance) failure, especially concerning infrastructure and service provision by the government. Implicitly, more enclaves will emerge so long as infrastructure inadequacy persists. Thus, there is an emphasis on the role of the government in balancing infrastructure provision across the board to promote spatial equity. Empirical analyses project the need for a Public-Private-People Partnership arrangement as a viable infrastructure provision approach.

More precisely, a dominant issue of urban social sustainability posed by premium enclaves is the case of varying accessibility and experiential outcomes concerning infrastructure services. It is especially the case regarding access to basic infrastructure and services. Within

the SSA context, it is an offshoot effect of urbanisation worthy of research and policy evaluations. On the one hand, there is usually a section of city dwellers with access to quality and uninterrupted infrastructure and service provision. Although self-provisioning could be the underlying funding and management approach, this scenario plays out across premium enclaves. On the other hand, city dwellers struggle with infrastructure inadequacy and interruptions in certain parts of the urban space. These people are usually classified as the urban "poor and deprived". In Lagos, as an example, there is the well-planned Ikoyi-Victoria Island axis with an organised city and infrastructure experience traced to the urban ideal conditions created during the colonial era. Then, there are the less organised and infrastructurally defective parts of the metropolis, such as Makoko, Iwaya and others.

Furthermore, the case for an independent infrastructure system for the emerging EAC is premised on the assumption that if the emerging city relies on the infrastructure and service network of the Lagos metropolis, its experiential outcomes would be suboptimal. Of course, the argument is based on the realities of infrastructure and service experience across the metropolis where, even in the premium enclaves, there is an ongoing strive for an uninterrupted power supply. Implicitly, the quest for interruption-free access to infrastructure service defines infrastructure *criticality* within the study context. The priority of self-funding and provisioning of infrastructure by the urban elites strengthens this argument. Moreso, low- and middle-income neighbourhoods and communities across the metropolis are also involved in some degree of infrastructure self-provisioning- albeit not in an organised way as the enclaves.

Instructively, the EAC's independent infrastructure and city system raises a key concern. It is a potential traffic and circulation inefficiency due to the absence of a central land use plan that captures and integrates transport and connectivity, especially between the EAC and the adjoining VI and Lekki axes. The emphasis of this argument is that there will be an exchange of traffic from other parts of the metropolis into, out of, and around the EAC. Thus, there is a case for effective land use management (on the part of the city administrators) to ensure the efficient circulation of people and activities. The empirical analysis projects a land use plan as a viable tool to ensure the integration and sustainability of connectivity. Conclusively, the summation of empirical analyses and the review of the literature presents some considerations for broader urban research. They are discussed in the next chapter, which includes the summary of findings and the presentation of the conclusion and recommendations of this study.

Chapter Eight

Summary of Findings, Considerations for Future Urban Research, and Conclusion

8.0 Introduction

This study has examined enclave urbanism and the outcomes of infrastructure provision and management through a qualitative methodology using case study design in selected residential enclaves and the emerging EAC in Lagos, Nigeria. The research particularly examined experiences and outcomes of infrastructure provision and management in Banana Island, Victoria Garden City, Magodo GRA and Omole Phase II residential enclaves, and the planning and implementation of the EAC concerning its development projections and realities using data from semi-structured interviews and document analysis. Further, the study explored the possibilities and realities of infrastructure integration between the EAC and the Lagos metropolis using an analysis of the physical planning regulation concerning infrastructure and standard harmonization and the imperatives of a land use plan. Lastly, the study examined social sustainability issues that come to the fore in the urban Lagos context. Though Lagos shares similarities in urban development outcomes with some other cities in SSA, its surging population and sustained enclave investment activities – especially over the last two decades – make it a distinctly proper context for this study.

This chapter concludes the study. It is outlined in three sections, beginning with a presentation of the summary of findings and arguments put forward so far in the empirical chapters. It is followed by a presentation of the considerations for future urban research relating to enclave urbanism and the understanding of urban growth dynamics concerning infrastructure funding, provision and management - especially in cities of Sub-Saharan Africa. At the fore of considerations for urban research is the changing narratives of infrastructure ideals, especially in developing cities of the world. This outcome is challenging given the sharp sociospatial delineation with varying quality and access to infrastructure. The last section captures the conclusion of this study.

8.1 Summary of findings

The interrelations between urban growth patterns and physical development (mis)management in Lagos over the years have resulted in audacious urban solutions partly

characterized by a private infrastructure arrangement alongside the proliferation of enclaved spaces backed by elitist interest. More so, the quest for urban safety and a physically ideal and organized living environment with functional infrastructure and services drives the desire for enclave living. The emerging EAC is a product of neoliberal concession aimed at protecting the Lagos shoreline and evolving into a smart city infrastructure with promises of financial returns and tourism projections. However, the realities of infrastructure provision and management in the existing premium enclaves and the development realities of the EAC are intricately characterized by issues of accessibility, functionality, and equity. The key findings of this study are presented below in line with each of the set objectives.

Firstly, the findings from the assessment of infrastructure provision and management approaches in existing Lagos premium enclaves reveal a continuous process of self-funding and organization either through a professionalised management organisation or residents' associations. By and large, these self-governing enclaves have better infrastructure and management realities than other parts of the metropolis. Granted that such outcomes are coping strategies to beat infrastructure challenges, the private funding and management approach for infrastructure across the enclaves reflects the provisional gap across the metropolis and questions the role of the city government concerning infrastructure and service provision. More so, the role played by the infrastructure companies (such as the DISCOs) is also contentious given that they offer premium service agreements to wealthy enclaves. Considering the various levels of infrastructure accessibility and experiential outcomes inadvertently magnified by the premium enclaves, infrastructure thus becomes a bridging entity across Lagos' urban space. It divides the cityscape along socioeconomic lines with contrasting sociospatial realities. On one part of the metropolis are the well-planned, elitist enclaves with privately arranged infrastructure services. On the other parts of the metropolis are the "common" residential areas and neighbourhoods where residents grapple with infrastructure inefficiencies and erratic services. Nonetheless, even in these neighbourhoods, residents privately organise their solutions to infrastructure inadequacies where or when possible. Some examples of such self-help strategies include boreholes or well for water supply and power generators for electricity. In some instances, residents get or buy water from a neighbour who has a borehole. However, there is a social "grouse" against the government and the upper class - despite their financial involvement in the self-provisioning of infrastructure services within their space. Such an outcome threatens the sustainability target of Lagos as Africa's fastest-growing urban centre. When assessed based on key elements of urban sustainability (such as accessibility, experiential outcomes, and cohesion), urban enclaves in Lagos pose threats to its short- and long-term

sustainability, substantiating the need to re-examine Lagos' social sustainability indices. It is necessary given the city's economic uncertainties and worsening poverty index.

Secondly, the assessment of the planning and implementation of the EAC concerning its development projections and realities reveals that the EAC takes enclaving in Lagos to a new level concerning its development scope and infrastructure approach assessed under the following considerations. It is a privately-driven new city development built from scratch on reclaimed land and with an independent infrastructure system. The reclaimed land is protected by the great wall and shields the Lagos shoreline from the Atlantic Ocean. More so, the reclaimed land emerges as a smart city and financial hub for Africa with privately funded infrastructure. The emerging city also boosts the image of Lagos through its world-class tourism (projection). The city's development is backed by a memorandum of understanding between the developers and the Lagos and federal governments of Nigeria, which, amongst other provisions, allows for internal regulation and control of development activities. However, development approval remains a prerogative of the Lagos state government through the MPPUD. By and large, empirical findings show that the city's independent infrastructure system is plausible given the realities of infrastructure functionality across the metropolis. Moreover, its infrastructure system is almost in the built reality, save the power plant. Nonetheless, its socioeconomic assessment reveals that the emerging city consolidates elite-driven urbanism in Lagos and is, therefore, not in the overall public interest. The EAC's negotiation and initiation procedures were not open to public consultation despite the city benefiting from an existing public good - the Bar Beach area further reclaimed into the ocean. Implicitly, the emerging EAC distracts the government away from the challenges in other parts of the city.

Thirdly, the analyses of the issues of infrastructure provision and functionality between the EAC and the urban Lagos show that the emerging EAC presents two key infrastructure arrangement issues arising from its independent provision and management plan: transport integration and standard harmonization. There is a standard and capacity disconnection when the EAC's transport infrastructure plan and design are cross-examined with what obtains across the Lagos metropolis, given that the EAC's transport plan is primarily road based. For instance, the city's 8-lane Eko boulevard connects it to the Lagos metropolis via the 4-lane Ahmadu Bello way in VI. This presents some traffic complications concerning movement into, out of, and around the EAC. Consequently, there is a need to integrate the emerging city with the Lagos metropolis using a multi-modal approach. A possibility is the extension of the city's light rail

network from Marina into the EAC. Its integration is somewhat complex but necessary to ensure functionality and flow within the intersection axes. A key submission is that since the EAC is still emerging, a land-use plan that addresses its connectivity issues with the rest of Lagos could address critical issues of integration and harmonisation.

Fourthly, the exploration of issues of urban sustainability posed by enclaves through the development of exclusive space and infrastructure systems in the urban Lagos context presents some key issues. Primarily, the emergence of premium enclaved spaces with self-funding infrastructure arrangements stresses the fact that urban residents are giving up on the government's ability to provide basic infrastructure and services. Thus, the central idea connected to the self-provisioning of infrastructure services is the quest for infrastructure stability. Infrastructure stability captures accessibility and interruption-free services and these strongly define the *criticality* of infrastructure in urban Lagos. Notably, these are the primary drivers of private infrastructure arrangement across existing enclaves and the emerging EAC. The literature establishes that *investment priority* is one of the defining factors for infrastructure criticality. In this regard, the low level of investment and upgrade activities makes infrastructure in Lagos very prone to service interruption. It triggers self-help strategies even across low-income communities. Needless to say, infrastructure (provision and management) is, by and large, shaping the urban pattern and outcomes in Lagos. In the last three decades, infrastructure utility has *splintered* the Lagos urban space along socioeconomic lines. It strengthens the case for reassessing its urban development plans and strategies. Since infrastructures are drivers of urban activities and functions, there is a need to prioritise provision and investment by the city government and utility companies.

Additionally, the emergence of premium enclaves complicates land use disparities in urban Lagos. It is given the absence of a central land use plan that guides physical development in the city. Moreover, since enclave development utilises a large expanse of land for the urban minority, their proliferation translates to less availability of land for low- and middle-income housing development. Within the Lagos context, they contribute significantly to horizontal development. Such an outcome underlines an inefficient use of land, given Lagos' limited land area. Hence, the need to adopt a vertical approach in Lagos' urban development and housing policies. Besides, enclaves indicate an urban growth pattern that does not cater to the housing demand or needs across the board.

Conclusively, this study fulfils Schuermans' (2016) submission on the need to embark on more intense, empirical and context-specific studies on experiences and encounters in the

field of enclave urbanism. The outcome of this research, therefore, helps in understanding the functionalities and failures of (critical) infrastructure in existing urban enclaves and how the lessons can be adopted in the management and provision of infrastructure in emerging ones while addressing social sustainability issues that arise within the Lagos urban context. Nonetheless, the need for new and emerging urban research to examine the various patterns of urban expansion and management outcomes in cities of the global South has been emphasised by this study, as the literature provides mostly the experiences of the global North. Beyond the preceding, there are key considerations for future urban research presented by this study. They are discussed in the following section.

8.2 Considerations for future urban research in Sub-Saharan Africa

This section presents the considerations for future urban research in the Sub-Saharan African context. These considerations are key issues that emerge during the analyses of this empirical research. Although they have been analysed and discussed to an extent concerning the context of this study, the issues are worthy of consideration in the broader urbanism debate and scholarship. It is because their (re)consideration and or examination will allow for a broader understanding and implementation of context-suitable urban policies and development approaches that are tailored around local specifics, especially in the Sub-Saharan African context. They include, but are not limited to:

8.2.1 Neoliberal restructuring of space in the interest of capital: Re-examining the SSA urban development approach

So far, there is ample empirical evidence in this study to strengthen the narrative that physical urban development outcomes in Lagos manifest in a spatial restructuring which, among other indications, is aimed at addressing infrastructure provision inadequacies. Consequently, there is a sustained proliferation of enclaved spaces. In recent times, the approach is neoliberal. Development mongers are “empowered” to undertake physical development initiatives with less or no state involvement, as is the case of the emerging EAC. The concern is that while this approach guarantees alternatives for infrastructure service provision, it is usually profit-oriented and does not usually have considerations across the board. Investors or developers usually take advantage of *demands* to maximise profit.

There are two sides to the private development initiative/concession narrative, presenting a *dichotomous* tendency to urban sustainability. On the one hand, privately driven infrastructure and service provision arrangements have proven to be efficient and reliable. They provide consistent service provisions. In the case of Lagos, premium enclaves such as VGC enjoy relatively functional infrastructure services. On the other hand, neoliberal urban development (for infrastructure provision) provides exorbitant services usually out of reach to the common masses. Residents sometimes pay for services not directly in their interest and or domain. An example is the Lekki-Epe expressway toll gate. Commuters pay access fees per trip. In this case, low-income communities down the axis dominated by premium enclaves are casualties in the private infrastructure arrangement, despite having low-income capacity. Also, the housing infrastructure development in the EAC, just like in Ikoyi, appear overpriced and out of reach of the middle class. Perhaps, the premium enclave is an elitist solution that does not fit in the overall socioeconomic reality, considering its expensive housing and service commodity. For instance, while Lagos reports a high number of housing deficits, there are vacant residential units across wealthy neighbourhoods and some enclaves in parts of the city - such as in the Ikoyi and the Victoria Island axes. This scenario is owing to the high cost of property in these areas. The preceding shows that the underlying elitist interest driving neoliberal urban restructuring, despite its potential advantages - such as standard infrastructure and housing delivery, could be counterproductive in the long run, manifesting in a sharply polarized urban space with one part having overpriced accommodation and or serviced apartments. It is partly because they do not reflect their urban spaces' socioeconomic realities. Also, they trigger urbanisation that is not within reach of many residents across SSA.

Additionally, among other sociospatial contraindications, neoliberal urban input results in a high incidence of social disharmony, economic vulnerability, and a growing informal approach toward essential infrastructure service provision, such as water and sanitation (Cobbinah et al., 2015; Abubakar et al., 2020). There are concerns about the Lagos case, given that the city's urban development policies are usually not in the general public interest. Besides, empirical analyses show that there is a strong influence of the city's "highly privileged class" on Lagos' urban development outcomes. As established in chapter two and the empirical chapters, the economic-driven motives of the neoliberal development approach appear to be a misfit in the urban planning approach for the SSA, notwithstanding its potential for desired urban expansion and infrastructure actualisation. Thus, there is a need for more focused research on the neoliberal development approach's tendencies, realities, and implications to guide urban growth and management in developing cities.

8.2.2 The institutionalization of elitist urbanism

The proliferation of premium enclaves across fast-growing urban centres of the world provides economically and environmentally pleasing development outputs which, in many cases, address urgent urban *inadequacies* in these regions. However, as shown in empirical analyses in this study context, they are spatial indicators of elitist interests and contribute to urban growth complications. They represent an urban development ideal that caters to the urban needs of a restricted group of people (usually the elites) through the subtle commercialisation of critical infrastructures. There is usually indirect backing from city administrators and policymakers acting on behalf of the state through urban development policies that, by and large, exclude middle- and low-class urbanites, reflecting a bias in Lagos' urban management approach. It propagates *bypass urbanism,* as explained:

> Bypass urbanism is made possible by a confluence of global and contextual conditions such as the strong influence of private interests in urban governance and planning, the dominance of market logic in urban development, and the ever-increasing demand for protected housing by the emerging middle classes and globally-versed elite urban populations. In many ways, bypass urbanism is the result of pragmatic decisions made by a variety of actors in their interests: incapacitated state actors making use of readily available private capital to achieve infrastructural gain; private corporations and developers acting for profit; social groups who are willing and able to pay for higher living standards. (Sawyer and Schmid, 2017; p. 213)

Within the Sub-Saharan African context, this phenomenon is a concern, given that its fast-growing urbanisation does not translate into meaningful socio-economic benefits across the board. Specifically, the high rate of urbanisation in Lagos has not significantly reduced poverty among its residents. Surprisingly, the city's poverty index has continued to worsen over the years (Dano et al., 2020). It creates a challenge to its sustainability and inclusion realities. Contrariwise, Lagos has witnessed an increase in premium development, especially in the last three decades. It suggests that while elite-driven urbanism may be a necessary urban intervention to address some cogent spatial issues such as physical infrastructure deficit, it is not a viable approach to managing the fast-growing urban populations of cities in developing regions. Thus, there is a need to review and reassess development approaches toward elitist interest. It calls for broadly specific research into how best to manage development across the global South.

8.2.3 Spatial reorganization: *a strategy to escape infrastructure deficit and underdevelopment?*

One of the significant outcomes of enclave urbanism in major cities of Sub-Saharan Africa and other developing regions of the world is a resultant fragmentation of the urban landscape through spatial reorganisation (along socioeconomic lines). The empirical analyses in this study show how urban enclaving shapes Lagos' urban landscape, resulting in a sharp sociospatial delineation primarily driven by the desire to beat infrastructure and service inefficiencies. In addition, Dano et al. (2020) explore how Lagos' urbanisation challenges could be confronted with geospatial technologies using a transformative governance approach. There is also the case of sociospatial delineations across the urban Cape Town (Lemanski, 2007) and how land use (mis)management influences the gating of communities in Ghana (Ehwi et al., 2019). Cobbinah et al. (2015) assess urbanisation and its spatial manifestations from a general African urban perspective, identifying implications for sustainable development using case study cities. A common outcome in these examples is that spatial *rearrangement* is fuelled by fast-paced urbanisation triggering sociospatial delineation characterised by income disparities. Scholars have recently identified this issue. For instance, it is noted that:

> Research on new cities so far indicates a clear mismatch between their promise to solve the pressing issues of sustainable urbanisation and population growth on the one hand, and their reality as higher-class consumption enclaves on the other. The framing of these self-contained urban projects as 'urgent' and 'inevitable' in the context of Africa's rapid urban population growth also means that displacement of poor city dwellers is regarded as a necessary evil. (van Noorloos and Kloosterboer, 2018; p. 1225)

The consequential outcome is a rise in sociospatial inequality and non-inclusiveness regarding access to basic infrastructure and services. Already, the inequality index in large urban centres across Sub-Saharan Africa is higher than in most other regions of the world, as Adesina (2020) notes. It is a threat to the urban sustainability of these cities. Also, haphazard spatial reorganisation (in urban centres of SSA) is a symptom of fragile urbanisation that stems from the high population growth rate. There is a steady increase in the demand for housing, critical infrastructure and other essential services. It leads to a spontaneous provisional approach that is sometimes out of the control of city managers and regulators. Consequently, there is a shift in the infrastructure provision paradigm. It calls for a deliberate re-examination of urbanisation and its management strategies across cities in SSA.

In all of these considerations, the main concern is that while the sustainability of urban centres should encompass economic, environmental and social development across the board,

city administrators and decision-makers tend to focus on the first two aspects, essentially ignoring the last. However, equity, accessibility and balanced experiential outcomes are desirable elements experienced in towns and cities. The preceding provides an opportunity for further research, investigating how city development approaches across urban centres in SSA struggle to inculcate the elements of (urban) social sustainability into development inputs and the way forward.

8.3 Conclusion and Recommendations

This study has explored how the institutionalisation of enclave urbanism manifests in a fragmented infrastructure provision, as in the case of premium enclaves versus common neighbourhoods. Across the board, there is preferential access to infrastructure, depending on socioeconomic status. Also, the realities of infrastructure provision and management in the emerging EAC is a privately financed, planned, organised, location-specific and investment-driven city infrastructure system projected as *self-sustaining*, making it bigger and broader in scope than existing enclaves. However, the EAC's urban sustainability and infrastructure realities are more fragile than projected, given that there is a possibility of its development outcomes being influenced or thwarted by the existing urban complexities in Lagos. This narrative is, more so, premised on the complications of infrastructure and service provision in urban Lagos.

The study posits that further research is needed to examine approaches toward inclusive development in Sub-Saharan Africa. More urban studies should focus on how developmental proposals and outcomes reflect local peculiarities and need across all living spaces to guarantee inclusion, accessibility, and balanced experiential outcomes or otherwise. In Lagos, what seems missing is an organised urban management system, as is the case with other parts of SSA:

> ... African cities have been characterised by massive and uncontrolled spatial expansion, technically termed as urban sprawl. Recent studies on cities in Africa suggest that urban sprawl results in unsustainable land development, and often engulfs peripheral urban areas and converts non-urban land, particularly agricultural lands into urban land use. (Cobbinah et al., 2015; p. 66)

Given their elitist tendencies, the present neoliberal enclave development across its fast-growing urban centres does not guarantee the survival of the urban forces of cohesion. This take resonates with the conclusion of Cain (2014) in his work on African urban fantasies (focusing on premium residential developments in Luanda). The author notes that "fundamental

questions about the viability of the new urban private sector-driven model" should be addressed (Cain, 2014; p. 567).

Instructively, this study presents two key recommendations. First, there is an urban research imperative for more context-specific studies to enrich the debate on enclave urbanism across the global South and also establish how forces, inputs or perceptions from within their contexts or the global North may have played some silent roles in the consolidation of the enclave urbanism phenomenon. It is necessary because there is no single method or approach to analyze or solve issues of urban fragmentation produced by different forces and actors. Second, urban studies and policy formulation approaches need to (re)examine the realities of the fragile interrelations between the urban poor versus urban elites in physical development management. It is necessary, given the persistent narratives of securing the interests of the urban poor in development proposals and input. Perhaps, there is a need to also focus on understanding how urban elites negotiate their interests in city development using various tools such as PPP to capture and control physical development dynamics.

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Appendix I: List of Interviewees

Number	Pseudonym	Status	Date
1	Tobiloba	Built Environment Expert/Enclave Resident [Magodo GRA]	8 April 2019
2	Francis	Built Environment Expert	10 April 2019
3	Pascal	Built Environment Expert/Professor	12 April 2019
4	Vengy	Urban Planner/Urban Designer	15 April 2019
5	Kareem	Government Agency Representative	17 April 2019
6	Misodels	Built Environment Expert	24 April 2019
7	Dipson	Urban Planner	27 April 2019
8	Joshua	Built Environment Expert	25 April 2019
9	Theophilus	Built Environment Expert/Professor	30 April 2019
10	Doreen	Built Environment Expert/Enclave Resident [Omole Phase II]	7 May 2019
11	Newton	Urban Planner	10 May 2019
12	EACPln	EAC Planning Unit	21 May 2019
13	Adenuga	Government Agency Representative/ Built Environment Expert/Enclave Resident [Magodo GRA]	22 May 2019
14	EACCtre	EAC Centre	29 May 2019
15	Johann	VGC Management Company	28 June 2019
16	Christian	Built Environment Expert/Enclave Resident [VGC]	4 July 2019
17	Fernandez	Enclave Resident [VGC]	10 July 2019
18	Paulinus	Built Environment Expert/Enclave Resident [Magodo GRA]/Former commissioner of the Lagos State Ministry of Physical Planning and Urban Development.	12 July 2019
19	Brightness	Eko Electric Distribution Company, Marina, Lagos	22 July 2019
20	Alexander	Enclave Resident [VGC]	25 July 2019
21	Akindele	Enclave Resident [Omole Phase II]	22 August 2019
22	Doragus	Sociologist	4 September 2019
23	Moluso	Sociologist	13 September 2019
24	Dwalads	Urban Planner/Expert	10 October 2020
25	Allugbs	Urban Planning Expert/Magodo GRA Resident	02 November 2020
26	Foppup	Urban Planning Expert/VGC Resident/Socioeconomic Representative	03 November 2020
27	Radiance	Ikeja Electric	24 November 2020
28	Monica	Omole Phase II CDA	27 November 2020
29	EACMgt	EAC Development Company	08 December 2020
30	Bolanle	Magodo GRA Resident	28 December 2020
31	Peniel	Magodo Residents' Association	02 January 2021
32	LWA	Lagos Waste Management Agency	06 January 2021
33	Biporal	Banana Island Management Company	13 January 2021
34	Dadols	Lagos Resident/Socioeconomic Representative	30 January 2021
35	Kosfols	Lagos Resident/Socioeconomic Representative	04 February 2021

Appendix II: Questionnaire A-1

ENCLAVE URBANISM IN SUB-SAHARA AFRICA:

DEVELOPMENT, INFRASTRUCTURE PROVISION AND INTEGRATION IN LAGOS' PREMIUM ENCLAVES

Target respondent: Eko Atlantic City (EAC) development/management team

This interview is strictly for the KRITIS international doctoral project on enclave spaces and Infrastructure provision and management across Sub-Saharan Africa, focusing on premium residential enclaves in Lagos, Nigeria. Data will be handled with utmost confidentiality while upholding best scientific practices.

(A) General questions on the development of EAC and its relation to Lagos Metropolis

i. What is the key idea of EAC?
ii. What is/are the role(s) of your organisation in its development?
iii. What are the aspirations connected to the development of the EAC?
iv. How should/will the EAC relate to Lagos Metropolis?
v. How will EAC be different from Lagos Metropolis?
vi. Are there any existing best practice model(s) that guide the development of the EAC?
vii. What are the similarities and differences between the EAC and a typical mixed-use development?
viii. How is the institutional set-up of the EAC linked to the rest of Lagos?
ix. Which stakeholders are involved in the development of EAC? How is EAC to be governed?

(B) Questions on the development of infrastructure at EAC

x. What are the infrastructure standards/principles guiding the provision of
   - Transport infrastructure?

- Electricity?
- Sewage management in the EAC?

xi. Who builds and operates the infrastructure at EAC? (Is the builder the same as the operator? /Who are the key investors?)

xii. Which stakeholders are involved in regulating infrastructure development in the EAC?

xiii. How independent are the infrastructure services?

xiv. What are the plans for infrastructure integration between the EAC and the Lagos metropolis? (At which points are there any planned intersections?)

xv. Who are the stakeholders in the integration process?

xvi. How will the issue of accessibility to EAC be addressed?

xvii. How does the infrastructure development of EAC relate to issues of sustainability (socially, economically, ecologically)?

(C) <u>Questions regarding the benefits of EAC to Lagos?</u>

xviii. How will the EAC benefit urban Lagos at large?

Questionnaire A-2

ENCLAVE URBANISM IN SUB-SAHARA AFRICA:

DEVELOPMENT, INFRASTRUCTURE PROVISION AND MANAGEMENT IN LAGOS' ENCLAVES

Target respondent: BIPORAL/Omole Phase II/Magodo GRA CDA Chairman/Secretary

This interview is strictly for the KRITIS international doctoral project on enclave spaces and Infrastructure provision and management across Sub-Saharan Africa, focusing on premium residential enclaves in Lagos, Nigeria. Data will be handled with utmost confidentiality while upholding the best scientific practices.

i. What is the driving concept behind the emergence of the Banana Island/VGC/Omole Phase I/Magodo GRA residential enclave?
ii. What is the component of BIPORAL/MRA/CDA? How does the company function?
What are the roles and responsibilities of the management organization in terms of infrastructure provision and management?
iii. What is/are the governance arrangement(s)/connections with state ministries, departments, or agencies?
iv. What is the role of BIPORAL/MRA/CDA in development control and planning permit matters?
v. How does the enclave differ from other state government enclaves?
vi. Who built/builds and manages road networks in this neighbourhood?
What other transport options are on offer?
What are the intersections to the transport system of Lagos Metro?
vii. How is electricity service provided and distributed in this enclave/ What electricity distribution company services the enclave?
How would rate electricity provision in this neighbourhood?
What are the intersections to the electricity system of Lagos Metro?

viii. Who built and manages the sewage system in this neighbourhood?
How would you rate the sewage system?
What are the intersections to the sewage system of Lagos Metro?

ix. What measures do you have in place for the breakdown of infrastructure services (like electricity, water supply, etc)?

x. Is the infrastructure system connected to the central network of the Lagos grid? Which?

xi. Do you think you pay more service charges compared to residents in other parts of Lagos?
If so: what (quality of service) do you get in return?

xii. How would you describe the experience of living in an enclaved space versus living in the Lagos metropolis?

xiii. What do you think about the condition of infrastructure (electricity, transport, and sewage management) in the larger Lagos metropolis?

xiv. Does living in a residential enclave restrict your contact with other residents of the Lagos metropolis?

xv. Do you think socioeconomic status should determine access to infrastructure and services?

xvi. Which other areas in the Lagos metropolis would you consider attractive; which areas are unattractive and what does the availability of infrastructure and quality of delivery have to do with it?

xvii. What is your opinion about the emerging Eko Atlantic City?

Appendix III: Questionnaire B

ENCLAVE URBANISM IN SUB-SAHARA AFRICA:

DEVELOPMENT, INFRASTRUCTURE PROVISION, AND MANAGEMENT IN LAGOS' ENCLAVES

This interview is strictly for the KRITIS international doctoral project on enclave spaces and Infrastructure provision and management across Sub-Saharan Africa, focusing on perspectives on the emerging Eko Atlantic City (EAC) in Lagos, Nigeria. Data will be handled with utmost confidentiality while upholding the best scientific practices.
Please type your answer after each question.

Your initials (e.g. J.A.T):

Target respondent: Enclave Residents

a. Who built/builds and manages road networks in your neighbourhood?
What other transport options are on offer?

b. How is electricity service provided and distributed in your neighbourhood? / Which distribution company provides electricity service to your area?

c. How would rate electricity provision in this neighbourhood?

d. Who built and manages the sewage system in your house?

e. Are you connected to any central sewage system?

f. How would you rate the sewage system?

g. What measures do you have in place for the breakdown of infrastructure services (like electricity, water supply, bad road, etc)?

h. What do you think about the condition of infrastructure (electricity, transport, and sewage management) in the larger Lagos metropolis?

i. Going by the gross infrastructure deficit of Lagos, do you think the government should/can still play the role of funding infrastructure provision and services; and how realistic is that?

j. Do you think socioeconomic status should determine access to infrastructure and services?

k. What are the consequences of a fragmented landscape in urban Lagos?

l. Which areas in the Lagos metropolis would you consider attractive? which areas are unattractive and what does the availability of infrastructure and quality of delivery have to do with it?

Target respondent: Enclave Residents/Representatives of different socio-economic groups across Lagos

m. What is your opinion on the emerging Eko Atlantic City [EAC] (off the coast of Victoria Island), Lagos?

n. What effect will the emergence of the EAC have on the existing infrastructure deficit in urban Lagos?

o. How does independent infrastructure development of EAC relate to issues of sustainability (socially, economically)?

p. Do you think the EAC project will benefit urban Lagos at large? (How?)

q. Does the private provision of services in premium enclaves lead to socioeconomic exclusion?

r. What is your viewpoint about the emergence of residential neighbourhoods with varying infrastructure qualities in Lagos?

s. What is your opinion on Public-Private Partnership (PPP) for infrastructure provision?

t. How would you rate infrastructure quality (transport, electricity, and sewage management) in the Lagos metropolis?

Appendix IV: Questionnaire C

PROSPECTS FOR ENCLAVE INFRASTRUCTURE INTEGRATION AND SOCIAL SUSTAINABILITY IN THE EMERGING EKO ATLANTIC CITY, LAGOS.

The interview guide (questionnaire)

Target respondents: EAC Infrastructure experts/developers and Town Planners/Built Environment Experts/Sociologists/Infra experts in Lagos

General questions on the development of EAC and its relation to Lagos Metropolis

a. What is the key idea of EAC?
b. What is your organization's role in its development? What are your tasks?
c. What are the aspirations connected to the development of the EAC?
d. How should/will the EAC relate to Lagos Metropolis? How will EAC be different from Lagos Metropolis?
e. Is there any existing best practice model that guides the development of the EAC?
f. How sustainable is the development of EAC (in terms of social, economic, and ecological aspects) and how does this differ from Lagos Metro?
g. What are the similarities and differences between the EAC and a typical mixed-use development?
h. How is the institutional setup of the EAC linked to the rest of Lagos? / Which stakeholders are involved in the development of EAC? How is EAC to be governed?
i. What are the consequences of a fragmented landscape in urban Lagos?

Questions on the development of infrastructure at EAC

a. What are the infrastructure standards/principles guiding the provision of
b. Transport infrastructure
c. Electricity
d. Sewage management in the EAC?
e. Who builds and operates the infrastructure at EAC? (Is the builder the same as the operator? /Who are the key investors?

f. Which stakeholders are involved in regulating infrastructure development in the EAC?
g. How independent are the infrastructure services?
h. What are the plans for infrastructure integration between the EAC and the Lagos metropolis? (At which points are there any planned intersections?)
i. Who are the stakeholders in the integration process?
j. At whose cost is the infrastructure integration?
k. How will the issue of accessibility to EAC be addressed?
l. What effect will the emergence of the EAC have on the existing infrastructure deficit in urban Lagos?
m. How does the infrastructure development of EAC relate to issues of sustainability (socially, economically, ecologically)?
n. At whose expense are the residential enclaves in Lagos serviced in terms of infrastructure provision?
o. How would you rate infrastructure quality (transport, electricity, and sewage management) in the Lagos metropolis?
p. Going by the gross infrastructure deficit of Lagos, do you think the government should still play the role of funding infrastructure provision and services; and how realistic is that?

Questions regarding the benefits/effects of EAC to Lagos?

a. Do you think the EAC project will benefit urban Lagos at large? (How?)
b. At what cost is the development of the EAC infrastructure to the government?
c. How will the emergence of the EAC improve the socio-economic status of low-income residents in the Lagos metropolis? (Who benefits from the development of EAC? Who loses?)
d. Does the private provision of services in existing enclaves lead to socioeconomic exclusion?
e. What palliative measure(s) has been put in place for developmental issues that might affect the Lagos metropolis?
f. How can the EAC project be justified?
g. What is your opinion on Public-Private Partnership (PPP) for infrastructure provision?
h. What is your viewpoint about the emergence of residential neighbourhoods with varying infrastructure qualities in Lagos?

i. What are the socio-physical consequences of having a varying quality of infrastructure across enclaves?
j. What are the plans in place to address the rising infrastructure deficit in the Lagos metropolis?
k. What are the plans of the government to address rising inequality in urban Lagos?

For: Step 2 (to achieve research objective two)

Residents/Facilities managers in the existing enclave of Lagos/Residents of the Lagos metropolis

a. How would you describe the experience of living in an enclaved space versus the experience of living in the Lagos metropolis?
b. Who built and manages road networks in this neighbourhood? What other transport options are on offer? How do you rate it? What are the intersections to the transport system of Lagos Metro?
c. Who built and manages electricity in this neighbourhood? How would rate electricity provision in this neighbourhood? What are the intersections to the electricity system of Lagos Metro?
d. What electricity distribution company provide services to the enclave?
e. Who built and manages the sewage system in this neighbourhood? How would you rate the sewage system? What are the intersections to the sewage system of Lagos Metro?
f. What measures do you have in place for the breakdown of infrastructure services?
g. What are the options available for the enclave area in case of failure or breakdown?
h. Is the infrastructure system connected to the central network of the Lagos grid? Which?
i. What do you think about the condition of infrastructure (electricity, transport and sewage management) in the larger Lagos metropolis?
j. Do you think you pay more service charges compared to residents in other parts of Lagos? If so: what do you get in return?
k. Does living in a residential enclave restrict your contact with other residents of the Lagos metropolis?

l. Do you think socioeconomic status should determine access to infrastructure and services?
m. Who do you think should fund infrastructure provision and services?
n. Which other areas in the Lagos metropolis would you consider attractive; which areas are unattractive and what does the availability of infrastructure and quality of delivery have to do with it?